The Milroy Lectures

ON

THE NATURAL HISTORY AND AFFINITIES OF RHEUMATIC FEVER: A STUDY IN EPIDEMIOLOGY.

Delivered at the Royal College of Physicians of London on March 5th, 7th, 12th, and 14th, 1895,

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LECTURE III.[1]

Delivered on March 12th.

THE INFLUENCE OF AIR AND EARTH TEMPERATURE.

MR. PRESIDENT AND GENTLEMEN,—To ascertain whether the *temperature* of the air or soil has any essential relationship with the origin of rheumatic fever we must learn whether variations in temperature are accompanied by variations in the prevalence of the disease, and whether modifications in these seasonal changes of temperature are accompanied by corresponding modifications in the amount of rheumatic fever. Taking the *mean annual temperature* at Greenwich since 1868, we find that in 1866 and in 1868–69, years in which rheumatic fever was excessive in London, the mean temperature was from 1 to 5 per cent. above the mean for the whole period 1866–93; in 1874–75, which were epidemic years, it was at the mean line. In 1879, a minimum year for rheumatic fever, the mean temperature was also low (6 per cent. below the mean), and in 1884, with a temperature 4 per cent. above the mean, rheumatic fever was again excessive. In 1893 there was the same association of high temperature and excessive rheumatic fever. On the whole, therefore, it would appear that a high temperature is in England favourable to an increase of rheumatic fever, though the experience of 1874–75 shows that there is no definite proportion between the two. In order to exhaust the possibilities as to the influence of the temperature of the air, the weekly maximum and minimum temperatures in 1874–75 were contrasted with the corresponding weekly admissions to Guy's and St. George's Hospitals for rheumatic fever, with no more definite result than could have been inferred from the statements already made as to the seasonal distribution of rheumatic fever. In 1893, owing to the marked drought in the second quarter of the year, the atmospheric conditions were exceptional, but a comparison of these with the weekly admissions to Guy's Hospital during the same period shows no such marked variations as might have been expected if atmospheric temperature were a very pronounced element in the causation of rheumatic fever.

Records of the *temperature of the earth*, so far as they are obtainable, show that in years in which rheumatic fever is exceptionally prevalent the earth temperature is unusually high. From a record of the temperature of the soil at 9 A.M. at four feet below the surface, kept at Regent's Park since 1871, I have been able to obtain the mean earth temperature for every year since 1871 excepting 1877–79, and the maximum and minimum temperatures since 1880. The record shows that in 1871–74 inclusive the mean earth temperature of the year was always at or above 50° F., a temperature which was not again reached except in 1884 and 1893 (which were also epidemic years). In 1875 the mean earth temperature was 49·4° and in 1876 it was 49·7°, temperatures which were not equalled except in 1882 and 1883 and in 1894. A comparison of the extreme with the mean temperatures of the earth, and of the mean temperature of the earth in 1871–76 with the corresponding mean temperatures in later years, shows that during the period in which comparison is possible in London *great epidemics of rheumatic fever occur only when the mean temperature of the soil is exceptionally high*—i.e., over 50° F.—and that the greatest epidemics occur when the mean temperature has been thus high for two or more years in succession.

Humidity of air may be similarly tested. On plotting out the mean dew-point temperature of the first and fourth quarters of each year there is no consistent result, the indications pointing in opposite directions both in epidemic and non-epidemic years. No relationship can be traced for the years 1874 and 1875 between the weekly admissions to Guy's and St. George's Hospitals, London, and the dryness of the air as indicated by the difference between the dew-point temperature and the air temperature in the corresponding or the preceding weeks. It would be unwise to conclude that the meteorological factors just mentioned have *no* influence. Hospital patients with rheumatic fever are not admitted until a variable period from the onset of their illness. Gull and Sutton give the average duration before admission as nine days. Then, again, we do not know how soon the climatic conditions, if operative, produce rheumatic fever, or, accepting the infective theory, we do not know the period of incubation of the disease. It is possible that daily observations of *barometric pressure* if compared with the daily number of cases of rheumatic fever would furnish valuable indications; but these will be impracticable in this country until or unless a general system of notification of the disease is introduced. Mean barometric pressures for weeks or months have comparatively little value, as they give but a feeble notion of the range of pressure, which is the all-important point.

THE INFLUENCE OF RAINFALL.

Rainfall might be expected to have a much closer association with the prevalence of rheumatic fever than any other meteorological condition, as it has become almost accepted as an axiom in medicine that damp air and damp soil are provocative of rheumatic fever. Even on this point the observations, as summarised by Dr. A. E. Garrod in his "Treatise on Rheumatism," are hopelessly at variance. Hirsch at Würzburg and Edlefsen at Kiel found that the amount of rheumatic fever was inversely as the rainfall, while the report of the Collective Investigation Committee of the British Medical Association shows that most cases begin in damp or wet, or cold or cloudy weather; and Dr. Gabbett[2] on the strength of the London Hospital statistics for 1873–81 says there is, if anything, a tendency for the prevalence of rheumatic fever to vary directly with the rainfall. Dr. Longstaff[3] classifies rheumatic fever with scarlet fever, erysipelas, &c., as a "dry disease"—i.e., checked by rainfall, especially frequent rainfall.

Observations on rainfall in London.—In 1867 the rainfall at Greenwich was 17 per cent. above the average, and in 1868 4 per cent. above the average, and yet 1868 was marked by a large epidemic. In 1870 with a deficiency of 25 per cent. of rainfall there was a smaller epidemic, and in 1874 a large epidemic of rheumatic fever corresponded with a small rainfall, the epidemic continuing in 1875 although the rainfall was in that year 12 per cent. above the average; 1872 and 1879 with the highest rainfalls in the whole period had a small amount of rheumatic fever. The relationship may be examined more closely in the rainfall for each quarter, but this does not appear to alter the rule that may be laid down that a heavy annual rainfall is usually associated with a low amount of rheumatic fever, and a small rainfall with a large amount of rheumatic fever, though there is no exact proportion observable between the two. It is certain, however, that two or three years of deficient or excessive rainfall are more potent than a single year. The rainfall of Hertfordshire is recorded for a very long period, arranged in a manner very convenient for our present purpose;[4] it is here employed, therefore, for comparison with the annual amount of rheumatism in London as well as that at Greenwich. It will be seen that in 1861–2–3–4 the rainfall was much below the average, and that the deaths from rheumatism in London, which had begun to increase in 1862, were still more excessive in 1863–4–5. In 1865 the rainfall reached its next maximum, but the deaths from rheumatism did not reach their minimum until 1867. In 1868, when rheumatism was again in excess, rainfall was about the average amount, as also in 1867. In 1873–4 with deficient rainfall there was an increasing amount of rheumatism, which culminated in 1875 although in that year the rainfall was excessive. In 1881, 1884, 1887, and 1890 small rainfall corresponded with minor increases of rheumatism. The summer (April to September) and winter (October to March) ratios of rainfall

[1] Lectures I. and II. appeared in THE LANCET of March 9th, 1895.

[2] THE LANCET, Oct. 20th, 1883.

[3] Studies in Statistics, p. 370.

[4] Appendix to Report of Royal Commission on Metropolitan Water-supply.

for Herts confirm the results of the years' ratios. With an excess of rheumatism both winter and summer ratios of rainfall were nearly always below the average. Observation of the *number of rainy days* in each year confirms the preceding results. In only one instance was the number of rainy days above the average in a year in which the deaths from rheumatism in London were slightly excessive—viz., in 1890. The inquiry may be pursued in other places besides London. In Brighton the rainfall in 1873 and 1874 was much below the average; in 1875 it was 1 per cent. above the average. In 1874-75 occurred a large epidemic of rheumatic fever. From 1877-81 rainfall was above the average, and so was the rheumatic fever in three out of the four years. In 1884, again, there were deficient rainfall and little rheumatic fever. In 1888 there was a large amount of rheumatic fever; the rainfall was a little below the average. In 1891 very little rainfall and excessive rheumatic fever. In 1893 a small increase of rheumatic fever, with deficient rainfall.

At Glasgow the record of rainfall is unfortunately broken at intervals, but it is possible to form a fairly accurate idea from the separate curves for the rainfall of each quarter of the year. Thus 1873 and 1874 were epidemic years. In 1873 the rainfall was at or above the mean line in the first three quarters, and only just below it in the fourth quarter, although the total rainfall of the year was 45 per cent. below that of the preceding year. In 1874 the rainfall of the first and second quarters was below the mean line, of the third and fourth quarters above it, and the total rainfall of the year was about equal to that of 1873. In 1880, judging by the records of the second, third, and fourth quarters (that for the first quarter is wanting), the rainfall was much below the average, and in 1881, in which there was an excessive amount of rheumatic fever, the rainfall was defective in the first and fourth quarters of the year. The chief interest, however, centres about the year 1888, in which year the great epidemic of 1887-89 reached its climax. It will be noted that in the second quarter of each year the rainfall was much below the average from 1884-88 inclusive, in the third quarter at least from 1885-89, and in the fourth quarter from 1885-90. In the first quarter of 1885-86 and of 1888-89 rainfall was also deficient (1887 is missing). It is evident, therefore, that this great epidemic in Glasgow had been preceded by a deficiency of rainfall for four or five years.

THE INFLUENCE OF GROUND WATER.

We have now completed our attempt at the analysis of climate in its relation to rheumatic fever prevalence, excepting the conditions of soil. Geologically, as already stated, the data do not exist for a statistical statement as to the relative influence of different soils on this disease. Inasmuch, however, as the influence of soil upon health is probably determined chiefly by its temperature and degree of moisture, and as the temperature is determined by its *porosity* and the degree of *moisture*, we may be able where subsoil water observations are extant to ascertain if there is any relationship between it and the amount of rheumatic fever. The height and the *degree of oscillation* of the ground water are the two chief factors concerned. It is generally agreed, as stated by De Chaumont,[5] that "a persistently low ground water, say 15 ft. down or more, is healthy; that a persistently high ground water, less than 5 ft. from the surface, is unhealthy; and that a fluctuating level, especially if the changes are sudden and violent, is very unhealthy." According to Pettenkofer the most unhealthy time is during the fall of the ground water. Dr. Copeman[6] (p. 355) says: "It is well known that the disease [rheumatism] evinces a preference for open basins and plateaux exposed to the wind, for damp and deeply cleft valleys, and for sea coasts or the shores of great rivers. Dampness of soil may, however, predispose to the disease from the fact that it renders it cold, and this will be the more likely to be the case at low elevations and where there is an impermeable subsoil such as clay; but no sweeping assertion can be made on this point, as the necessary data for the institution of the comparative frequency of the disease on different kinds of soil are unfortunately wanting." This sentence fairly represents the present state of our knowledge on this subject, and brings out the association between dampness of soil and excess of rheumatism, which has become accepted as indubitable. That such an association is more than dubious we shall presently see. It may be further added that there is probably no association between an impermeable clay subsoil and rheumatism such as is indicated above. All that follows tends to the conclusion that porous soils, being more subject to variations of humidity and temperature and containing a much larger proportion of ground air, are more prone than impervious soils to be the medium from which such telluric contagia as that of rheumatic fever are received. The greatest difficulty in investigating this problem has been the dearth of regular and long-continued ground water observations in this country. The records of the Lewes-road well at Brighton form an unbroken series of almost daily observations since 1867. From the curve of monthly maximum and minimum levels it will be seen that the minimum depth of water in the well was 50 per cent. higher in 1894 than in 1864. The water is pumped from the well almost daily, but owing to the opening of new wells in other parts of the watershed this well is not now worked more than formerly. The levels may, therefore, be fairly taken as representing the influence of seasonal and climatic factors practically undisturbed by variations in pumping.

	Mean=100.	
The years of greatest range of ground water were	In which ratio of acute *plus* subacute rheumatism was	Acute rheumatism =
1877	97	111
1887	148	141
1883	94	94
1873	62	71
The years of smallest range of ground water were		
1874	117	131
1884	87	68
1885	103	88
1893	122	129
1889	118	129
1890	154	103
The years of highest level were		
1877	97	111
1873	62	71
1883	94	94
The years of lowest level were		
1887	148	141
1875	126	144
1888	165	173
1890	154	103
1891	106	74
1892	145	116

The years of highest level of ground water coincide with three out of the four years in which also the greatest range of ground water occurs. In these three years the amount of rheumatic fever was below the average. In the fourth year (1887) in which there was a great range of ground water, but *at a much lower level*, there was a severe epidemic of rheumatic fever culminating in 1888, in which year the range of ground water was much smaller. The range in 1887 was 68 ft. 9 in., as compared with an average range of 66 ft. 5 in. in the three other years of greatest range, 1873, 1877, and 1883; but the minimum depth of water in the well in 1887 was 1 ft., as compared with an average minimum for 1873-77-83 of 12 ft. 3 in. That a great range of ground water has no essential relationship with rheumatic fever is further shown by the years of smallest range. In four such years (1874-89-90-93) there was a great excess of rheumatic fever. In two other years of small range (1884-85) there was little or no excess of rheumatic fever. How do these two years compare with the preceding four as to level of ground water? The average of the minimum levels in 1874-89-90-93 was 8 ft. 7 in.; in 1884-85 it was 8 ft. 4 in.—practically no difference. It would appear, therefore, that smallness of range of ground water is not a necessary concomitant of excessive rheumatic fever, though the two usually coexist. Looking next at the question of simple level of ground water we find that the years of lowest level are associated with excessive rheumatic fever, and that the years of highest level are always associated with a small amount of rheumatic fever.

A general inspection of the curve of monthly levels of ground water shows a series of regularly and continuously high levels each year from 1867 to 1872, culminating in an exceptionally high level in the spring of 1873. Now the curve alters in character. In October-December, 1873, the rainfall was only 7·84 in. The total rainfall in 1873 was 25·42 in., as compared with 36·90 in. in 1872; and following on this condition of things in 1873, the ground water in 1874 failed to

[5] Stevenson and Murphy's Hygiene, vol. ii., p. 324.
[6] Lectures on State Medicine, 1875.

show more than half the normal spring rise. The sum of the monthly maximum levels of the well for this year was 375 ft. as compared with 568 ft. in 1873. Corresponding to this fall in the level of the ground water came with rapid onset the epidemic of rheumatic fever in Brighton in 1874. The epidemic continued in 1875, when the ground water had risen considerably, though it was even now lower than in several preceding years. In 1876 the ground water had about the same level as in 1875, but the epidemic of rheumatic fever had ceased.

Between 1877 and 1880 occurred another fairly steady fall of ground water from a maximum at the beginning of 1877, and accompanying this there was (so far as can be judged from the imperfect records) a rise in the amount of rheumatic fever, reaching its maximum in 1880, when the spring rise in the level of the ground water almost failed as in 1874. As on the previous occasion, rheumatic fever then fell slowly in amount, reaching a minimum in 1884. In 1884 an exceptionally low level of ground water was again reached, but rheumatic fever was now also very low in amount. A study of the preceding table will prove that the anomaly cannot be explained on any difference between 1884 on the one hand and 1874 and 1880 on the other hand in regard to the *amount of variation* of the ground water level. It may be surmised that the *time of year at which the tide of ground water turned* has some influence. In 1874 the ground water was receding right on to December. In 1880 the following tide only began in November, while in 1884 the flow commenced in August. I have been unable to obtain any monthly statement of cases of rheumatic fever in 1884 with which to check my hypothesis. Whether we take the view that deficient rainfall is a condition directly favouring excess of rheumatic fever or only indirectly through the agency of a lowered ground water, the events of 1884 and the next three years are somewhat puzzling. In 1884–85 the rainfall and the aggregate level of the ground water were deficient in the first year, and still more deficient in the second year. Rheumatic fever was 34 per cent. below the average in 1884, and 12 per cent. below the average in 1885. In 1886 the rainfall had increased, so also had the height of the ground water, and so also had rheumatic fever (to 8 per cent. above the average). The chief rainfall of 1886 (13·61 in. out of a total of 33 25 in.) occurred in the fourth quarter. In the first quarter of 1887 5 06 in. of rain fell, but the total amount in 1887 was only 23·14 in., and the ground water therefore rapidly fell. The increase of rheumatic fever in 1887 was great, it being now 141 per cent. of the average amount. In 1888 no spring rise of ground water occurred, and the rheumatic fever in that year increased to 173 per cent. of the average, an amount greater than in any other year. In July, 1888, there were 4·26 in. of rainfall, and in November 4 81 in., and the total rainfall in 1888 was 28·16 in. Hence the spring rise of ground water reappeared in 1889, and with it the rheumatic fever declined to 129 per cent. of the average amount. In the years 1890 and 1891 the level of ground water was low, and in 1891 lower than in 1888; and yet if we take the acute rheumatism curve, as heretofore, its prevalence was at or below the average. A reference to the original documents, however, shows that while in 1889 the number of cases of acute rheumatism in the County Hospital was 39 and of subacute 2, in 1890 the numbers were 32 and 23, in 1891 they were 24 and 15, in 1892 they were 28 and 12, and in 1893 they were 41 and 3. It is evident, therefore, that there has been some transference, and that for this period the curve for acute and subacute rheumatism is the most trustworthy. Accepting this fact, it may be said that rheumatic fever in Brighton in 1890 and 1891 was much above the average. Looking at the whole period—August, 1887, to September, 1891—it is evident that the ground water was persistently low, and it is equally evident that rheumatic fever was during the same period generally excessive, with minor variations.

Mr. Baldwin Latham, C.E., who has made the subject of well levels a special study, has kindly furnished particulars of the maximum and minimum levels of the well water at Wickham Court, Kent, in the chalk three miles from Croydon. From 1866–72 the level did not vary very greatly. In this respect it greatly resembled the Brighton well, both being in the chalk. In 1873 a marked disturbance of the level of the well occurred, both maximum—in the fourth month—and minimum—the twelfth month—being higher than in the preceding years. In the same year an epidemic of rheumatic fever began, the admissions to the General Hospital for acute and subacute rheumatism being 16, as compared with 9, 10, and 8 in 1870, 1871, and 1872 respectively. In 1874 they were 20, and in 1875 they were 27, but in 1876 they had again fallen to 14. In 1874 the maximum of the ground water for the year was in January, and was extremely low, and it evidently went steadily down, as the minimum level was recorded in December. So low a maximum level appears to me to indicate that the fall had already begun in the latter part of 1873, thus partially accounting for the fact that the commencement of the epidemic appeared to precede the fall in ground water level. I have been unable to obtain a monthly tracing of the ground water. In 1875 the ground water reached its very low highest level in April, and then fell to its minimum in December. In 1876 the water appears to have been rising until June, and reached a rather higher level than in April of the preceding year. The epidemic of rheumatic fever in this year greatly subsided; and in 1877, when the ground water had risen enormously even in January and attained its maximum in May, the epidemic had entirely disappeared. In 1878 occurred a small increase of rheumatic fever, with some fall in ground water level. In 1881 there is no similar correspondence between the two. In 1883 there is a repetition of what happened in 1873, there being a higher maximum ground water level than in 1882 with a considerable increase of rheumatic fever. The maximum of ground water in 1883 was, however, in April, and from that time there was a great fall to December. Between April, 1883, and April, 1884, a greater fall of ground water level occurred than at any previous time since 1873–84. The low level of ground water in 1884 does not appear to have been associated with an excess of rheumatic fever. The total number of rheumatic fever patients in 1884 was 11, as compared with 21 in 1883. It is noteworthy as bearing on this point that the total number of medical and surgical patients in 1884 was 208, as compared with 304 in 1883 and 339 in 1885. It is probable therefore that there were some special administrative causes at work in 1884, which prevented the rheumatic fever admissions to the hospital from being an accurate index of the total rheumatic fever in Croydon during that year. From 1885 onwards a disturbing influence comes into operation. The Croydon waterworks at Addington commenced work; and it has been recently stated in evidence before the Royal Commission on the Metropolitan Water-supply that the amount of water pumped out of the chalk is beyond the capacity of this water-bearing stratum. Although the curve for the Croydon well since that date shows some oscillations, they cannot therefore be regarded as natural in character. A fall of ground water occurred in 1885 and 1888, and in both these years there was some excess of rheumatic fever. In 1891 another fall occurred, greatest towards the end of the year, and this was accompanied by a slight increase of rheumatic fever in 1891–2.

I have now exhausted the English well levels so far as they relate to places in which corresponding information as to rheumatic fever is available. There is a great poverty of records in this most important field. Mr. M. A. Adams of Maidstone has since 1885 kept a very valuable record; but the hospital records for Maidstone are unfortunately too scanty to enable one to utilise his observations for rheumatic fever. Our next endeavour will be to collect such information as is available with respect to ground water in or about London in connexion with its annual prevalence of rheumatic fever. London, as will be seen from the geological map, lies chiefly on the London clay, which overlies to a great depth the chalk, the latter cropping out north and south of London, in Hertfordshire and Surrey. Over the clay is at parts a variable amount of gravel, and at certain points, as on Hampstead Heath, patches of Bagshot sands. Shallow wells in the gravel formed the chief source of water-supply to old London, and for some centuries the direction of the growth of London was determined by the possibility of obtaining such water. Hence districts like Kilburn and St. John's-wood, lying directly on clay, are necessarily of modern growth. There are no continuous records of levels of water in the surface gravel, though a few isolated observations are given in vol. ii. of Whitaker's "Geology of London." These are mostly notes of trial borings &c., and are not repeated.

In 1885 a valuable report[7] on the Decrease of Water-supply was issued by a committee of the Royal Meteorological

[7] Quarterly Journal of the Royal Meteorological Society, vol. xi., No. 56, July, 1885.

Society. So far as can be judged from the investigations of this committee 1859 and 1860, years of low and high water respectively, corresponded with a rather low death-rate from rheumatism. The high water in 1861 and in 1866 corresponded with a low death-rate, and the low water in 1864 and 1865 with a high death-rate, from rheumatism. Low water in 1871 corresponded with a death-rate just below the average and a rather high hospital case-rate for rheumatism; and in 1873, with high water, the amount of rheumatism had not varied greatly, though rather in the direction of increase than of decrease. In 1874 and 1875, and again in 1884, low water was associated with excessive rheumatic fever, while in 1877, 1879, 1881, and 1883 high ground water accompanied a small amount of rheumatic fever. The series confirms the rule that low ground water is more favourable to the prevalence of an excess of rheumatic fever than high ground water. There is not wanting collateral evidence on the same point which can be brought up to the present date. At Barley, near Royston, in Hertfordshire, is a deep chalk well, from which records from 1864 onwards are available.[8] This may be taken as approximately indicating the variations in level of the ground water to the north of London. In 1864–65 the well was low for the whole of the year. Then from a maximum reached in April, 1867, the level fell until the end of 1868, the spring rise of 1868 being very small. There were corresponding maxima of rheumatism in London in 1864–65 and in 1868.

In 1869 the ground water rose, and rheumatism in London declined. Between the latter half of 1870 and the end of 1871 the ground water was lower than it had been since 1864–65, and with this there was a considerable increase of rheumatic fever, shown better by hospital cases than by the death returns. In 1873 the ground water was again high at Barley, and from then was very low throughout 1874 and 1875, rheumatic fever being at the same time exceptionally prevalent in London. The next minimum amount of rheumatic fever in London was reached in 1879, and in the same year the maximum level of the ground water was reached. In 1880–81 there was some increase of rheumatic fever in London with a slight lowering of ground water. In 1883 the ground water was very high, and rheumatic fever reached its next minimum. In 1884–85 the ground water was very low and rheumatic fever very high. The records for 1887–88 are unfortunately wanting.

The water levels of a chalk well at Cow Roast in Berkhampstead run practically parallel with those for the well at Barley and need not therefore be given in detail. Several points of difference between the curves of ground water at Barley and at Brighton and Croydon will be evident. 1. The low levels in 1870 and 1871 are unrepresented at the two latter places, whereas the 1874 and 1875 low levels are common to all. In 1870 there was an epidemic of rheumatic fever in London which did not occur in Brighton or Croydon; whereas the 1874–75 epidemic was common to all. 2. The 1884–85 low level was shared by Brighton and Barley; but as we have already seen there was, if the data are to be trusted, no epidemic of rheumatic fever in 1884 in Brighton, while there was some excess of rheumatic fever in London. Will the difference in the two curves explain this? At the Barley well in 1883 there was no autumn flow of water; but from that point a steady and almost uninterrupted drop progressed right to the end of 1885; while at Brighton in each year the normal ebb and flow occurred in both 1884 and 1885. It will now be seen why I lay stress on lowness of ground water as well as on deficiency of rainfall in connexion with an excessive prevalence of rheumatic fever. It is true that the level of the ground water is, in the absence of varying degrees of obstruction to its outflow, dependent chiefly on the rainfall; but it is possible that local circumstances of geology &c. may cause a dry year to have a different effect or an effect to a different degree in two districts. This will be evident from a comparison of the Hertfordshire and Greenwich rainfall with that of Brighton.[9] Thus in 1868, although the Greenwich rainfall was 4 per cent. above the average, and the Herts rainfall only 1 per cent. below the average, the ground water at Barley was low, and rheumatic fever was epidemic in London. In 1871 there was a greater deficiency of rainfall in Brighton than at Greenwich and in Herts, and no epidemic occurred in Brighton, while there was an epidemic in London. This was evidently associated with the fact that in 1870 the deficiency of rainfall in Brighton was not so great as near London, and consequently there was not the same fall in ground water *in the following year*. In 1884 the deficiency of rainfall was 12 per cent. at Brighton, as compared with 13 per cent. in Herts and 25 per cent. at Greenwich, so that in this instance one might have anticipated from the rainfall alone a greater epidemic in London than at Brighton, but not that the epidemic would be entirely absent from Brighton, as was apparently the case. The same general results are obtained when the rainfall is split up into that of summer and winter. It may safely be asserted that there is a closer correspondence between low ground water and excessive rheumatic fever than between deficient rainfall and excessive rheumatic fever, and that deficient rainfall probably only operates when it produces a decided effect on the level of the ground water. If deficient rainfall were directly operative in producing excessive rheumatic fever it might reasonably be expected to produce its effect in the course of a few weeks. If so the year 1893, which was distinguished by a remarkable and protracted drought, lasting in London from the tenth to the twenty-fourth week of the year, might be expected to show its effects in a very perceptible form. I have plotted out the weekly admissions to Guy's Hospital during each week of 1893 in comparison with the weekly rainfall. There was no excess of admissions in the first half of the year, the number up to March 25th being 25 March 26th to June 24th 24, from June 25th to Sept. 30th 42, and from Oct. 1st to Dec. 30th 39. It is evident that the drought was not followed by any great excess of cases until the autumn, there being no rapid increase of cases during the long-continued drought. The levels of the chalk wells at Barley and Berkhampstead cannot be regarded as exactly indicating the degree of dryness of the subsoil in London. In the absence of direct well observations some further indications may be obtained from records of the amount of water passing down the rivers Lea and Thames in each year. When the river is in flood the ground water is undoubtedly high, and the indications of river gaugings may be regarded as intermediate between rainfall and well observations, the river being fed both from surface drainage and from ground water. Feilde's Weir is situated on the river Lea below Ware at the junction of the Lea and Stort. The minimum flow was in 1864 (in August of that year). The next minimum flow was in September, 1865, the years 1864 and 1865 being the driest known in the neighbourhood of London. In 1864–65 there was an epidemic of rheumatic fever which, measured by the death returns, was only exceeded in magnitude in 1874–75. The year 1874 showed an almost equally small flow of water over the weir, and in 1884 and 1887–88 and 1890 the flow was below the average. In each case deficient flow over Feilde's Weir was associated with some excess of rheumatic fever in London.

Summarising the conclusions which may be legitimately drawn from the facts already stated, there is a close relationship between rainfall, level of ground water, and amount of rheumatic fever. In Brighton, in which we have been able to compare the three with some degree of accuracy, the rheumatic fever curve follows more closely the curve of ground water than that of rainfall. Thus in the years 1869–70–71 there was deficient rainfall, which did not markedly affect the level of the ground water, and no increase of rheumatic fever occurred. In 1888 the rainfall was above the average, but the well level was low owing to the defective rainfall of the preceding year, and there was an excess of rheumatic fever. Similarly in London the excessive rainfall in 1875 was not followed by an immediate and sudden fall in rheumatic fever prevalence, which may be explained on the supposition that it did not raise the ground water sufficiently high after the drought of 1874. It was not until after the steadily increasing rains of 1877–78–79 that rheumatic fever in London again reached its minimum. Similarly in 1884 there were deficient rainfall and high rheumatic fever, but the high rheumatic fever continued in 1885 notwithstanding an increased rainfall. It is evident that the effect of deficient rainfall is not produced immediately. It takes time to develop; and it is warrantable to assume that *the influence of deficient rainfall is exerted as the result of its effect on the subsoil, this effect usually showing itself by a marked lowering of the ground water.*

Low ground water must be regarded as leading to excessive rheumatic fever not by any essential causative relationship between the two. The low ground water is an indication of certain conditions of dryness and temperature of the subsoil which greatly favour the growth of the telluric contagium of

[8] Appendix to Report of the Royal Commission on Metropolitan Water-supply, p. 641. [9] Ibid., p. 667.

rheumatic fever. This being so, it is conceivable that low ground water, when through collateral circumstances it is unassociated with the required conditions of temperature &c., may not be accompanied by an increase of rheumatic fever, though conversely we never find a high ground water accompanying excessive rheumatic fever.

[Dr. Newsholme concluded by summarising certain foreign returns as to ground water, his information on the point as regards Berlin and Munich being particularly exhaustive.]

LECTURE IV.

Delivered on March 14th.

ARGUMENT AS TO THE INFECTIVE CHARACTER OF RHEUMATIC FEVER.

MR. PRESIDENT AND GENTLEMEN,—Having stepped aside to consider the influence of climate, season, weather, and ground water on the prevalence of rheumatic fever, we can now resume the argument in favour of the view that rheumatic fever is a specific febrile disease. We have seen that rheumatic fever shares its greater prevalence in winter and spring with several other specific febrile diseases, and that its marked association with deficient rainfall is shared by enteric fever, scarlet fever, erysipelas, &c. In the case of rheumatic fever there is reason to believe that deficient rainfall is provocative of an increased prevalence of the disease, only after the effects of this deficiency have been produced on the subsoil; and it is probable that the same relationship holds good for the other diseases just named.

We may next consider how far the *clinical features* of rheumatic fever and its analogy with recognised specific febrile diseases confirm the view that it partakes of the same nature.

1. *The mode of onset*, with shivering, general aching, &c., is strongly suggestive of the invasion of the system by micro-organisms. It resembles most closely, perhaps, the onset of influenza. *Sore-throat* is an initial symptom in a large proportion of cases. Dr. J. K. Fowler estimates the number of cases in which throat symptoms are present as not less than 80 per cent. The throat symptoms, as in scarlet fever, may be extremely slight, but they probably form an essential part of the disease. Mr. C. R. Straton of Wilton, Salisbury, has described pathognomonic greyish-yellow sores on the mucous membrane of the throat or nose, which may be followed by rheumatic fever or chorea or may have no sequel; but so far as I know no other observer has remarked these.

2. *The progress of the illness* is very like that of a specific febrile disease. The continuous fever, the frequent simultaneity of articular and visceral lesions, the occurrence of epistaxis, and the protracted curve of the temperature all indicate an infective disease; while the general aspect of the patient gives the same impression. The tendency to hyperpyrexia, as in scarlet fever, enteric fever, and puerperal septicæmia, forms another point of analogy. The occurrence of endocarditis is suggestive of microbic action. With the possible exception of chorea, all the diseases in which endocarditis is known to occur are infective in character. It is true that the fever has no such definite duration as in scarlet fever, enteric fever, pneumonia, &c.; but this is largely due to secondary serous inflammations. In the atypical character of its temperature curve rheumatic fever resembles erysipelas rather than typhus or enteric or scarlet fever.

3. *The tendency to relapse* is another feature characteristic of the disease. This by no means negatives the hypothesis of infectivity. Relapses are common in erysipelas. Relapsing pneumonia is described by Dr. Sturges; relapses of influenza and of enteric fever are common; recrudescences of diphtheria not infrequently occur within a few days of the first attack, or when the patient is about to be discharged from hospital. A similar phenomenon has occurred in my experience in a small percentage of scarlet fever cases; the patient, while desquamating from scarlet fever, has developed a second typical attack, beginning with sore-throat, scarlet rash, and elevated temperature, and followed by a second desquamation.

4. *The liability to second and later attacks.*—There is a regular scale of immunity among the diseases admittedly infective. Perhaps a second attack of small-pox is less common than of any other infectious disease, but it does occur. Third attacks of scarlet fever are known. Diphtheria appears to confer very slight immunity against subsequent attacks. Erysipelas predisposes to subsequent attacks, and we have in this respect an additional point of analogy between erysipelas and rheumatic fever.

5. *The influence of the personal equation* varies greatly in different instances. An unvaccinated person definitely exposed to the infection of small-pox seldom escapes. It is difficult to believe that any persons receiving the anthrax bacillus into a scratch would escape; but there are families—of one of which I am a member—in which no cases of scarlet fever have occurred for at least three generations, notwithstanding repeated opportunities of infection at susceptible ages; and there are conversely families in which scarlet fever occurs with a frequency (and sometimes a malignancy) quite disproportionate to the opportunities of infection. The proclivity of certain families to diphtheria and to enteric fever is notorious, though their members are living under the most diverse conditions. Hay fever might be taken as the type of a local infective disease in which a special personal proclivity—described by some as an idiosyncrasy and by others (as Hirsch) as some anatomical peculiarity of the organism—is required for the production of the disease; while small-pox might be taken as the type of an infectious disease in which personal proclivity or immunity (apart from vaccination) has but little influence. Rheumatic fever, like erysipelas, comes much nearer to hay fever than to small-pox. It is almost certain that the number of persons receiving the streptococcus of erysipelas into abraded points is much greater than the number developing erysipelas thereafter, and it is almost certain that more persons receive the rheumatic infection than there are rheumatic fever attacks.

6. *The method of infection* in enteric fever and cholera is almost always *viâ* the alimentary canal; in scarlet fever and diphtheria the infection may enter by the alimentary canal or be implanted by inhalation directly on the throat. In erysipelas it is doubtful whether the infection is always received at the point of traumatism or whether, as in the case of acute periostitis,[10] the micrococci have reached the specifically inflamed part *viâ* the blood circulation. In the majority of cases an abraded surface is the point of inoculation of erysipelas, and idiopathic erysipelas may be regarded as non-existent. In rheumatic fever it is probable that the specific infection enters the system at the tonsils or some other part of the naso-pharynx.

7. *The degree of infectiousness.*—Here again there is a scale of decreasing infectiousness from such diseases as small-pox and measles at one end of the scale, to enteric fever and cholera, which are only infectious by their intestinal discharges, and to erysipelas, which is only infectious to predisposed persons and probably only when an abraded surface exists. Rheumatic fever comes last in the series, the exact degree of its infectiousness being unknown. Assuming that rheumatic fever is due to the multiplication in the system of a specific micro-organism there can be no doubt that the chief seat of its multiplication is in the affected joints. Now infection is greater or less in proportion to the exposure of the affected parts. The exanthemata are typically infectious; enteric fever less so, though its specific discharges gain exit from the body. The rheumatic fever infection is deeply buried in the joints; we have little or no positive evidence that its micro-organisms ever escape by any of the emunctory organs. It may be that they pay for their hardihood in invading the system by securing a sepulture in its cells.

8. The fact that the *joints are the seat of the trouble* in rheumatic fever itself favours the infective theory. The "vessels of the synovia of the joints appear to have some special proclivity to form a nidus for the wandering germs of disease," as of gonorrhœa, pyæmia, and we may add rheumatic fever. Dr. Payne surmises that probably mechanical causes produce this determination of bacteria, as in gout they produce the determination of urate of soda.

So much for the clinical and analogical aspect of the case. Next as to the *therapeutics* of the disease. The specific power of salicin and salicylic acid to speedily terminate this disease forms one of the most remarkable conquests of modern medicine. It is comparable with the specific power of quinine in malaria and of salts of mercury and iodides in syphilis. Although the specific organism of syphilis has not been satisfactorily isolated, its existence is generally admitted; and the pathogenic importance of Laveran's

[10] Mr. A. H. Tubby, M.S., in Guy's Hospital Reports, suggests that the skin is the main portal through which the staphylococci pyogenes aurei producing this disease enter the circulation. He found the sweat ducts in a case of acute periostitis more dilated than usual and crowded with micrococci.

protozoal organism appears to be fairly well established. We may, therefore, fairly argue on the grounds of analogy that rheumatic fever belongs to the group of specific febrile diseases.

It is not necessary to enter in great detail into the dubious evidence which *bacteriology* has hitherto supplied. Cornil and Babes have described two organisms, bacilli and micrococci, in this disease. Wilson[11] found in the pericarditis of one case and the pneumonia of another case of rheumatic fever micro-organisms which he was able to cultivate. In 1887 Dr. Mantle isolated bacteria from the synovial fluid and cultivated them.[12] Petrone in three cases of rheumatic fever found in the serum taken from the knee of a rheumatic fever patient organisms similar to those described by Klebs as present in rheumatic endocarditis.[13] Dr. J. P. Popoff, house physician to the Marine Hospital in Nicolaëv, stated in a preliminary note in 1887 that he had isolated the microbe of rheumatic fever, but nothing further has been heard of it.[14] Birch-Hirschfield, at the Wiesbaden Medical Congress in 1888, reported five cases of rheumatism in which he found staphylococci or streptococci in the joints and on the cardiac valves. Bouchard and Charrin state[15] that they have frequently found the staphylococcus albus in the pure state in the articular fluids in subacute and chronic rheumatism. Triboulet[16] obtained negative results during the life of the patient from the synovial fluid in a case of chorea and rheumatism; but post mortem obtained colonies of staphylococcus albus and aureus on gelatine from the pericardial fluid and from the blood of the heart and vena cava. Sahlz,[17] in a case of rheumatic fever complicated by pericarditis, double pleurisy, and recent endocarditis without any trace of suppuration, found in the joints, pericardium, and on the vegetations on the endocardium and in the blood a microbe like the staphylococcus aureus. Dr. C. Sacaze,[18] Chef de Clinique Médicale à la Faculté de Montpellier, describes the case of a man admitted to hospital for rheumatic fever eight days after he had abraded his foot. Pus from the sore foot showed abundant staphylococci albi. Dr. Sacaze thinks the foot may have been the focus from which the system was inoculated. M. L. de Saint Germaine[19] has produced joint effusion as the result of the intravenous injection of staphylococci of feeble virulence. He points out, moreover, that in blennorrhagic arthritis, admittedly due to infection, the synovial fluid is sterile and no germs are found in the blood; we need not, therefore, be surprised at the lack of success in examination of the blood and synovial fluid for germs in rheumatic fever. Professor E. Leyden,[20] in a communication dated December, 1894, says he has isolated a particular form of diplococcus in certain cases of rheumatism which presents the peculiarity of not growing on ordinary culture media like gelatine, but only on human blood serum. It is, he states, quite different from a staphylococcus in its mode of growth. It may, however, be stated in short that the evidence in favour of any one of the above-cited organisms being the *materies morbi* of rheumatic fever is incomplete and unsatisfactory. *Experimental evidence* is wanting. There has been, so far as I know, no case of inoculation of rheumatic fever in the human subject by the blood of a rheumatic patient, so that the link in the evidence which has been supplied for malaria is still wanting for rheumatic fever. It is somewhat doubtful whether *comparative pathology* will be able to assist in the investigation. Professor MacFadyean, of the Royal Veterinary College, Camden Town, informs me that "nearly all veterinary authors describe both acute and chronic rheumatism as now and again attacking the domesticated animals, and some (Friedberger and Fröhner) regard the disease as due to an infection. I do not know of any experimental evidence for or against this. My own opinion is that much of what has been described under the head of acute articular rheumatism in the lower animals ought to be classed as pyæmia or septicæmia. I have never in the lower animals seen a case clinically identical with rheumatic fever of the human subject. I have seen many cases of acute arthritis with several joints simultaneously affected, but only in young animals, and always traceable to infection at the umbilicus and demonstrably caused by bacteria."

DIRECT EVIDENCE OF INFECTIVE CHARACTER.

The epidemics of rheumatic fever in the eighteenth century are too distant and too vaguely described to be regarded as authoritative. The more recent epidemics described in previous lectures furnish more exact evidence, and I venture to say that in view of the mass of evidence now collected it will be difficult to deny the infective character of rheumatic fever. Infection may be conveyed (*a*) directly from person to person, or (*b*) indirectly from infective discharges, which gain access to soil, water, or milk, or other foods, or become desiccated in inhabited rooms. If in the years in which rheumatic fever is excessively prevalent it is communicated from person to person it is remarkable that so few instances in which this has been apparently noticed are on record, though this does not necessarily negative the occurrence of infection. We have a possibly analogous case in phthisis, the infective character of which, although until recently it was not suspected by the majority of physicians, is now well recognised.

The most striking of the observations favouring the view that rheumatic fever is directly or indirectly infectious may now be quoted. Dr. Ch. Fiessinger[21] states that in the village of Oyonnax there are about 500 houses. In a dozen dry and well-aerated houses in one street of this village 10 out of a total of 21 cases of rheumatic fever in recent years have occurred. Of these 10, 4 were in the same house and 2 in the same room. In the last instance there was a year's interval and members of different families were attacked. Edlefsen[22] at Kiel found that 728 cases occurred in 492 houses, or 100 houses for 148 cases. He had—

2	cases	in	one	house	100	times.
3	,,	,,	,,	,,	27	,,
4	,,	,,	,,	,,	5	,,
5	,,	,,	,,	,,	5	,,
6	,,	,,	,,	,,	1	time.
7	,,	,,	,,	,,	1	,,

Two cases in the same house were observed 21 times in the same year, and 7 times in the same month. Three cases in one house in one year were observed 6 times. In 1883 out of 140 cases there were forty-nine houses in which previous cases had occurred. Friedländer of Leipzig, in the discussion on Edlefsen's paper, stated that out of 357 cases he had two houses with 8 cases, one with 7 cases, one with 5 cases, eight with 4 cases, ten with 3 cases, and eight with 2 cases. In one large corner-house he saw 12 cases of rheumatic fever in the years 1872–74, of which 7 occurred in April, 1873. In two other houses in one street he had 18 cases, 11 in the years 1870–71, and 7 in 1870. Port has shown the predilection of certain garrisons in Bavaria to suffer to an exceptional extent from rheumatic fever, and certain barracks of the same garrison. In this country there are also a few recorded cases indicating that the infection of rheumatic fever may *cling about certain houses* in a manner which strikingly reminds one of the same characteristic in diphtheria. Dr. Mantle[23] describes multiple cases in the same house. He describes particularly the case of a girl whom he attended for erythema nodosum. During her convalescence the mother developed her first attack of rheumatic fever, and in another week the father, who had been nursing his wife, had rheumatic fever for the first time. Scarlet fever and erythema nodosum were prevalent at the time in neighbouring houses.

In our review of the epidemicity of rheumatic fever one of the most remarkable features was the indications which it furnished of the *gradual spread of the disease*. In London, in Yorkshire towns, in Norway, and possibly elsewhere there were clear indications that the entire susceptible population was not attacked at the same time, but that the infection progressed from place to place, apparently the more remote parts (as in Norway) suffering at a later period than the nearer parts. This might, as already indicated, be explained on the supposition that the disease is directly or indirectly infectious; or it may be that the necessary reaction of environment to the specific virus, always endemic in each district, occurs in different years in different localities, or that the susceptibility of populations varies at different times.

[11] Edin. Med. Jour., June, 1888.
[12] Brit. Med. Jour., June, 1887.
[13] Article by M. Jaccoud, Gazette des Hôpitaux, 1888, p. 881.
[14] Med. Pribavlenia k'Morskoniü Sborniku, November, 1887, p. 401 (quoted in London Medical Recorder, p. 303, 1888).
[15] Association Française pour l'Avancement des Sciences, Session de Marseille, 1891.
[16] Revue des Maladies de l'Enfance, 1891.
[17] Zur Aetiologie des acuten Gelenkrheumatismus (Correspondenz-blatt für Schweizer Aerzte, No. 1, p. 22, 1892).
[18] Rôle des Staphylocoques dans l'Aetiologie du Rhumatisme (Archives Générales de Médecine, November, 1894).
[19] Etude Clinique et Expérimentale sur la Pathogénie du Rhumatisme articulaire aigu (Thèse de Paris, 1893).
[20] Deutsche Medicinische Wochenschrift, Dec. 6th, 1894.
[21] Gazette Médicale de Paris, No. 14, p. 160, April, 1892.
[22] Zur Statistik und Aetiologie des acuten Gelenkrheumatismus.
[23] Brit. Med. Jour., June 25th, 1887.

The first supposition makes the method of spread of rheumatic fever very analogous to that of diphtheria. This disease has for some years been slowly creeping over England. Unlike measles or influenza, the outbreaks of which owing to their rapid infectivity have an explosive character, diphtheria progresses with remarkable slowness. Some large centres of population have hitherto almost entirely escaped; while London and the towns and districts within easy touch of it have suffered severely. It takes several years to obtain full grip of a population, and it dies out slowly. Not only is infection from patient to patient required, but a large amount of infection must be present before the disease assumes epidemic proportions. It is more probable that the *materies morbi* of rheumatic fever is omnipresent, but requires certain favourable conditions of environment before it can assume sufficient malignancy to fit it for aggressive parasitic life. These conditions of environment are especially related to deficient rainfall and low ground water, and a certain temperature of the soil. This probably does not exhaust the environmental conditions favouring the spread of rheumatic fever, but of others we know little or nothing.

It will be seen that, on the whole, we incline to the view that rheumatic fever is caused by a saprophytic organism having a tendency to assume a parasitic life; that in most years only a small proportion of these organisms survive to the stage of parasitism, owing to the activity of their natural enemies in the struggle for existence; but that in dry years associated with low ground water and an optimum soil temperature the growth of these organisms is favoured more than that of countervailing organisms, and an abnormally large number of them are released into the atmosphere in a desiccated condition and become parasitic in persons whose vital processes do not enable them to resist the invasion. In the present state of our knowledge the gradual extension of the disease appears to be best explicable on the supposition that local geological and meteorological conditions cause the difference in time at which the reaction between special subsoil conditions and the vital activity of the rheumatic fever virus occurs.

Incubation period.—Our investigation into the origin of individual cases of rheumatic fever would be greatly facilitated by a knowledge of its exact period of incubation. Whether, like scarlet fever, it is only a few hours or may extend to months like hydrophobia or malaria is unknown. It is not unlikely that in this disease there may be a "latent parasitism," the organism already housed in the system waiting for its development until the personal factors to be next considered come into play.

The *chronic character* of some forms of rheumatism may be used as an argument against its infective character. It is not certain that chronic and acute rheumatism are the same disease; but if they are we have the analogous cases of chronic and recurrent forms of diphtheria and of the long-continued life in the individual of the malarial poison.

[Dr. Newsholme then briefly reviewed the element of idiosyncrasy in rheumatic fever, remarking that the degree of personal resistance was probably more important than either infection or environment in determining an attack.]

It is conceivable that the susceptibility to rheumatic fever of an entire population will become greater at intervals. We have already seen that some of the curves show a tendency to *alternation of greater and less epidemics*. Districts suffering severely in 1868 had the 1875 epidemic slightly, and districts having the 1875 epidemic badly escaped lightly in 1834 to have a severe outbreak in 1888. This is by no means generally the case, though it is frequently seen in the curves for large communities. It might be argued that most of the susceptible persons had rheumatic fever in the greater epidemic, and that this accounted for the smaller dimensions of its successor. There is, however, no evidence that one attack of rheumatic fever confers even temporary immunity against a second, and we must carefully distinguish between the comparative immunity of an entire community and that of an individual. The community is, however, made up of individuals, and it is highly probable that the apparent comparative immunity of a community is really a question of temporary comparative barrenness of the soil in which the *materies morbi* grows.

Metschnikoff has described an immunity of the population of Versailles against cholera, even when their drinking water contains the cholera vibrio.[24] He ascribes this immunity to the absence of "favouring organisms" in the alimentary canals of the Versaillese. On this hypothesis the absence or presence of rheumatic fever in a locality may be a question of the "microbal flora" of the mucous membranes of its inhabitants. Rather than accept the notion of complete immunity of an entire population in presence of cholera infection by means of inhibitory microbes in their intestines, it is easier to doubt the identity of the cholera vibrio found in the Seine water supplying Versailles, or in the alternative to deny the pathogenic relation of the comma vibrio to cholera.

There can be little doubt that the influence of *heredity* in relation to rheumatic fever has been much exaggerated owing to its common confusion with gout. There appears to be but a slender foundation for the notion that there exists what is called by Charcot an "articular disposition," a sort of parent stem from which issue two primary branches, gout and rheumatism, or what is called an "arthritic diathesis," from which, according to J. Hutchinson, develop gout under the influence of dietetic causes and rheumatism from exposure. Yet it appears impossible to treat of rheumatism without the use of the words "diathesis" or "disposition," notwithstanding Dr. Pye-Smith's eloquent *caveat* against their use.[25] He asks, How are we to define a rheumatic disposition? "If the disposition is not carried out it remains an unproved assertion." It matters little, however, whether we regard the members of a rheumatic family as inheriting a special *disposition* to the disease, or the members of a non-rheumatic family as inheriting a special *immunity* from it—either hypothesis would be tenable—the result is the same. If under certain conditions a person of one family will develop rheumatic fever, while under identical conditions a person of another family will not develop rheumatic fever—and this must, I think, be admitted—we must acknowledge a special personal factor which in certain cases favours, or at least fails to prevent, an attack of rheumatic fever.

Injury has an important influence in causing rheumatic fever. It may occur in the form of actual mechanical injury or be produced by former disease, as erysipelas, or be the result of fatigue or exposure to inclement weather.

The fact that rheumatic fever occurs in a predominantly large number of cases in dry, hot seasons does not exclude the operation of the conventional "chill." The influence of cold is a question, not only of actual temperature, but of variations of temperature, which in this country are greater in summer than in winter. Pasteur has shown how artificial refrigeration makes the hen subject to anthrax; Platania that it renders animals more receptive to the pneumococcus. It is not necessary further to pursue the *modus operandi* of cold, though it is not unlikely that it may be by affecting the tonsillar structures and deteriorating their functions, thus rendering them unable to resist the invasion of buccal microbes.

In connexion with chill we may mention the *lactic acid theory* of origin of rheumatic fever, associated more particularly with the names of Prout, Todd, and Richardson. It is still doubtful if lactic acid is excreted by the skin, and there is no positive evidence that there is an excess of lactic acid in the blood of rheumatic fever patients. Richardson's experimental results are somewhat dubious. The only positive evidence in favour of the lactic acid theory is Foster's observations on two diabetic patients,[26] in whom the prolonged administration of lactic acid produced rheumatic fever. Dr. A. Harkin[27] has suggested that Foster's cases were gout, as the small joints were chiefly attacked. The association of gout and diabetes is furthermore common. It is not necessary to deny that lactic acid is developed excessively in rheumatic fever. We simply maintain that if this is so the agent concerned in its production is a micro-organism which is the essential cause of this disease.

Corporeal over-fatigue undoubtedly opens the gate to rheumatic fever. This is in accordance with what we know of other diseases. It is probable that protracted labour predisposes to puerperal fever, and the influence of forced marches on the origin of enteric fever and dysentery is well known. Charrin and Roger increased the susceptibility of rats to anthrax and to symptomatic anthrax (Rauschbrand) by making them run a treadmill several hours a day. Fatigue probably favours rheumatic fever by causing temporary

[24] Annales de l'Institut Pasteur, 1893, p. 691, and Public Health, vol. vii., pp. 15 and 36.

[25] Brit. Med. Jour., June 2nd, 1894.

[26] Synthesis of Acute Rheumatism: Brit. Med. Jour., Dec. 21st, 1871.

[27] Pathology and Treatment of Acute Rheumatism: Dublin Journal of Medical Science, vol. lxxii., 1881, p. 312.

accumulation of effete matter and by causing nutritive modifications owing to the mechanical attrition. It is fairly certain that fatigue affects the localisation of rheumatic fever, and that this is the rational explanation for the exceptional frequency with which the knees and ankles are attacked. According to Lebert and Gerhardt more than two-thirds of the attacks of rheumatic fever begin in the lower extremities, the exceptions being among those who use their arms more than their legs. According to Kelsch,[28] from 80 to 85 per cent. of the cases begin in the legs, and next by preference the right arm.

There are certain facts which appear to point more definitely to the influence of traumatism in causing rheumatic fever. Many surgeons have had experience of an attack of rheumatic fever following attempts to reduce an old dislocation or to release old adhesions about a joint. M. Verneuil gave an account of several cases to the French Academy of Medicine.[29] In one case a woman aged twenty-five years was six months in hospital with an attack of rheumatic fever, which ended in a stiff ankle-joint. Two months later she returned to the hospital, and the actual cautery was applied. This was followed by an attack of rheumatic fever, beginning in the affected foot and spreading to other joints. In another case a girl aged eighteen years had a tooth extracted. On leaving the dentist she suffered from torticollis. This was followed by pain in the shoulder, and then a definite attack of rheumatic fever set in. In other cases the traumatism attending accouchement has appeared to be the starting point of rheumatic fever. Such cases as the preceding, indicating the possibility of traumatic infection, appear to increase the probability of a close affinity between rheumatic fever and erysipelas, on which we have already touched. It is impossible to say more than a few words as to the influence of race, diet, and occupation on rheumatic fever, as there is a dearth of trustworthy facts on these points.

As to *race* there is no evidence, so far as we know.

The same remarks applies almost equally to *occupation*. The only statistics which would settle this question would be those dealing with the total rheumatic fever patients in a given community, classified according to age and sex, in proportion to the total population of the same community. Such statistics would obviously be unobtainable except where, as in Norway, rheumatic fever is universally notified.

Diet possibly has some influence, though exact facts are wanting. With one clinical fact every practical physician is acquainted—viz., the frequency of relapses when animal food is given too early after an attack of rheumatic fever. There is, however, no evidence on a large scale that omnivorous or chiefly carnivorous races are more prone to rheumatic fever than vegetarians.

[Dr. Newsholme then discussed at length an important aspect of his exhaustive study of rheumatic fever—viz., the affinities of the disease. In his summary of the points of contact and contrast the lecturer compared rheumatic fever with chronic rheumatism, when he alluded to the confusion of ideas which by calling all sorts of arthritic and gouty conditions "rheumatism" had led to the idea that rheumatism was caused by damp; with muscular rheumatism; with chorea, stating that the statistics of St. George's Hospital showed a remarkable similarity in seasonal and annual curve between the two diseases; with epidemic cerebro-spinal meningitis; with epidemic pneumonia; with erysipelas, in connexion with which he pointed out at length the striking resemblance between the curves of rheumatism, erysipelas, and puerperal fever, and gave his grounds for believing that sepsis as a common cause did not wholly account for the similarity; and with scarlet fever, where the occurrence of scarlatinal rheumatism furnished an obvious point of contact. He continued:]

The conditions of soil producing rheumatic fever and malaria appear to be almost exactly opposed to each other. It would appear that a moist soil which has been previously saturated with water, associated with a soil temperature of about 65° F., is most favourable to the development of malaria. It is true that the conditions of soil under which malaria may develop appear to be somewhat discrepant. In the Campagna it prevailed in an uncultivated soil which was dry and free from stagnant water; and the same applies to some parts of the Deccan. As a rule, however, it occurs in marshy ground which has become superficially dried, and is intensified by any obstruction to the outflow of the ground water. In rheumatic fever we have seen that the greatest amount of rheumatic fever usually corresponds with the year of, or immediately following the year of, smallest rainfall, in which the ground water is exceptionally low, and that the least rheumatic fever corresponds with the years in which there is the shallowest layer of dry earth between the ground water and the external atmosphere. The seasonal distribution of the two diseases is dissimilar. In temperate climates malaria has a maximum prevalence in spring and in autumn, and a minimum in winter, when rheumatic fever is most prevalent. In the most intensely malarious spots of the tropics the maximum prevalence of malaria is markedly associated with the rainy season; if the rainfall is not excessive the malaria usually reaches its maximum when the rain ceases. Alternations of drought and moisture with a moderately high temperature seem most favourable to malaria; whereas rheumatic fever is most abundant when the deficiency of rainfall has been exceptionally protracted and has produced a marked and exceptional drying of the subsoil.

We are now in a position to take a general survey of rheumatic fever and the diseases with which it is most closely allied. We have shown by evidence derived from death returns and hospital returns in various countries and from the notification returns in Scandinavia that at intervals of a few years rheumatic fever prevails epidemically, though in the intervals it is never entirely absent from any community from which we have been able to obtain returns. Some of these epidemics have been so widespread as to deserve the name of pandemics, among which we may specially mention those occurring in 1868, in 1874–75, and in 1884.

The epidemic prevalence of rheumatic fever has always occurred, so far as this country is concerned, in years of exceptional scarcity of rainfall. Judging by the evidence in this country, the deficient rainfall appears to produce this effect by causing an exceptionally dry and warm subsoil, which is usually associated with low ground water. In the instances where records were available it has been found that when deficient rainfall was, owing to its seasonal distribution, not accompanied or followed by exceptional lowness of ground water there was no epidemic prevalence of rheumatic fever. It is probable that mere lowness of ground water is not the only factor concerned in favouring rheumatic fever, but this along with some other hitherto unknown factor of temperature of soil or rate of flow of ground water. Whether this is correct or not, it is certain that dryness of soil is favourable to the occurrence of rheumatic fever to an epidemic extent.

We have some difficulty in placing rheumatic fever in its exactly appropriate place among the specific febrile diseases, though of its claim to a place among them there can be no doubt. Is it an infectious disease like whooping-cough or measles? If so, it has hitherto succeeded admirably in concealing its true character. Direct infection if it occurs is exceptional. Is it a *purely miasmatic* disease like ague? We have already given reasons for regarding the poison of ague as absolutely distinct from that of rheumatic fever. They may both, however, be miasmatic diseases in the sense that the virus is formed in the soil and is not transmissible directly from patient to patient. Or it may be *miasmatic-contagious* like enteric fever or cholera, one phase of its existence being passed saprophytically in the soil and the next in the human organism. Whichever of these latter hypotheses is correct, we have no doubt that *it is essentially a soil disease*. It is impossible in the present state of our knowledge to be certain whether rheumatic fever is due to an organism which is usually solely saprophytic and only becomes parasitic when its habits of life are altered by the stimulating effects of dryness and warmth of soil, or, to put it in another way, only migrates into parasitic life when extra-corporeal food is deficient; and whether this organism after its rapid multiplication in the system is eliminated therefrom and subsequently infects the soil, or whether each case of the disease involves a fresh infection from contaminated soil, we cannot at present state. There are many points of analogy with tetanus and erysipelas, more particularly the latter. The virus of tetanus inhabits the soil, and can only become parasitic when directly inoculated. It is highly probable that the same is true for erysipelas; it may also be true for rheumatic fever.

[28] Kelsch: Traité des Maladies Épidémiques, p. 322.
[29] Gazette des Hôpitaux, Aug. 26th, 1876.

PROPHYLAXIS.

A disease like rheumatic fever, which certainly occurs chiefly in dry soils, appears to afford but little scope for preventive measures. It would appear at first sight to strike at the root of the hygienic axiom that a dry soil is the most healthy. It is probable that a distinction must be carefully drawn between dryness of soil due to its drainage, to the removal of locks, mill-ponds, &c. from the neighbouring streams, and dryness of soil due to a series of hot and dry seasons. The latter would be associated with a higher temperature of the soil than the former, and would undoubtedly have a different effect on the biological quality of the soil.[20]

A CASE OF SARCOMA OF THE BRAIN SUCCESSFULLY REMOVED BY OPERATION.

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THE following case is published as an example of the good results which may be obtained by the removal of a cerebral tumour, even when it has attained a considerable size.

The patient was a married man aged thirty-six years. Before the commencement of the present illness he had always enjoyed good health, and was well able to do hard work. He had never had any severe illness or injury, nor could any history of syphilis be obtained. Soon after the beginning of February, 1894, and as far as can now be ascertained on the 11th of that month, he was suddenly seized with a slight attack of Jacksonian epilepsy. He stated that in this attack the left elbow was raised from the side, and that the forearm was pronated and supinated in the flexed position several times in rapid succession. The attack was limited to the left arm, and he was perfectly conscious all the time. Nine days later, on Feb. 20th, he had a similar attack, again involving the left arm only, but accompanied by a tingling sensation, which was felt all over the left side of the head. Four days after this he had a third attack similar in all respects to the second. Since then he had had no general or localised convulsion. He did not notice any loss of power in the left arm immediately after these attacks. He continued at his work for another week, till one day he felt cold and was seized with nausea, which was followed by a severe attack of vomiting. The next day (March 4th) he found that he had lost some power in the left arm, and since then he had been unable to work. The left arm gradually became weaker till it finally was almost completely paralysed. About a fortnight after he left his work he felt that he was beginning to lose power in the left leg, but there had not been any convulsive seizure involving the leg. Attacks of vomiting occurred regularly two or three times a week. About the beginning of April he began to complain of an aching pain in the right temporal region. The symptoms all gradually became more marked up till the middle of May, when Dr. Murray first saw the patient in consultation with Dr. H. S. Baumgartner of Newcastle and Mr. Yoakley of Heaton. At that time the patient complained of headache on the right side and severe attacks of vomiting. There was paralysis of the left arm, with considerable loss of power in the left leg, so that he could only get about the house with difficulty by the help of a stick. There was well-marked double optic neuritis, the neuritis being rather more advanced in the right eye than in the left. The symptoms pointed clearly to the presence of a cerebral tumour, which we concluded primarily involved the cortex of the middle third of the ascending frontal and ascending parietal convolutions, and was extending upwards towards the longitudinal fissure. It was determined to administer full doses of potassium iodide for a few weeks in the first place, and, if no improvement took place, to have the tumour removed. Fifteen grains of potassium iodide were given three times a day. Beyond a temporary diminution in the frequency of the attacks of vomiting no improvement took place, and the condition of the patient became worse, so that at the end of six weeks we decided that the tumour should be removed without any further delay.

Condition of the patient at the time of operation.—The patient complained of headache which was always confined to the right side of the head. The pain, however, appeared to shift from one part of this side of the head to another, and was sometimes felt in the temporal and at others in the occipital region. He also complained of feeling as if he had received a blow on the head in the right parietal region. He frequently heard noises in the head, which at one time sounded like an engine at work and at another like a bell ringing. He had severe and prolonged attacks of vomiting almost every other day. The speech was clear and the memory unimpaired. His temper had become irritable, but in all other respects his mental condition was unaffected. On tapping the right side of the head there was found to be a small tender area surrounding a point situated one inch from the middle line on a line drawn at right angles to it and passing down through the right external auditory meatus. The eyes were examined by Dr. Archibald Percival, who reported their condition to be as follows. Vision was nearly $\frac{6}{6}$ with either eye. The fields were normal. In each eye the colour sense was good and the colour field normal. Light sense was impaired slightly. There was pronounced optic neuritis in both eyes. Left disc: $\frac{3}{4}$ mm. swelling. There was a small amount of hæmorrhage near the lower and outer margin of the disc. The vessels were partly obscured by the œdema in places. Right disc: the swelling was estimated at 1 mm.; a few fine vitreous opacities were occasionally and with difficulty seen. the tension was the same in both eyes. Elevation and depression were good. Conjugate movements were rather jerky, ranging to the extreme right or the extreme left. The pupils acted, but not very briskly, to light and accommodation. The other cranial nerves were unaffected. The left arm was almost completely paralysed, as the patient was unable to raise the arm by means of the shoulder muscles, and the movement which he made in endeavouring to raise the arm was due to rotation of the scapula. In the sitting position, with the arm hanging down, he was unable to execute the slightest movement of the forearm, hand, or fingers. When he was lying on his back in bed with the arm at his side he was found to have still some slight power in the flexors and extensors of the elbow-joint. There was a slight amount of rigidity of the biceps and supinator longus muscles. There was scarcely any diminution in the size of the muscles of the left arm and forearm. The thenar and hypothenar eminences were rather soft and flattened owing to some wasting of the intrinsic muscles of the hand; the interosseous spaces were more conspicuous than on the right. The triceps, the supinator longus, and the other muscles of the forearm were in a marked condition of myotatic irritability, and responded actively to mechanical stimulation. The patient could just walk across the room without support, but as a rule used a stick or supported himself by the furniture. The left leg dragged considerably as he walked; when sitting he could cross the left leg over the right knee. The power of flexion and extension of the left thigh was much less than on the right side. The extensor muscles of the left knee-joint were also less powerful than on the right, but the flexors were much weaker. He was unable to execute any movement of the foot or toes. Sensation to touch, pain, heat, and cold was unaffected. The muscular sense was lost for the left arm, as he was unable to tell the position of the limb unless he was aided by visual or sensory impulses. The knee-jerk was much exaggerated on the left; it was also more active than usual on the right. Ankle-clonus could be obtained on the left side, but not on the right. The superficial plantar reflex was exaggerated on the left. On pricking the dorsum of the left foot a reflex flexion of the foot took place, but only after an unusually long interval. The limbs of the right side were unaffected. Micturition and defæcation were carried out normally, and in all other respects the patient was healthy.

In this case the presence of headache, vomiting, and double optic neuritis associated with unilateral paralysis clearly indicated that the diagnosis of a cerebral tumour was correct. The localised epileptic attacks affecting the left arm, followed by progressive loss of power of that arm, and later by loss of power in the left leg, showed that the tumour was situated in the right half of the brain, and that it primarily involved either the cortical motor centre for the

[20] We regret that exigencies of space have compelled us to omit paragraphs here and there of Dr. Newsholme's interesting lectures, but though the points of disconnexion are here and there apparent the argument has not, we trust, suffered.—ED. L.

arm or the fibres passing down from that centre in the internal capsule. As localised convulsion of the left arm was the first symptom of the tumour which appeared, we concluded that the tumour primarily involved the cortex. As the facial muscles were unaffected it appeared most probable that the tumour had first of all involved the middle third of the right ascending frontal and ascending parietal convolutions, and had subsequently extended upwards and inwards towards the longitudinal fissure, affecting either the cortical leg centre or the fibres passing down from it, but to a less extent. We agreed, therefore, that it would be advisable to expose the surface of the brain at a point corresponding to the junction of the upper and middle thirds of the fissure of Rolando.

Operation by MR. RICHARDSON.—Two days before the operation the head was shaved and washed with soft soap and then with turpentine. The day before the head was treated in the same way. In the forenoon the right side of the head was marked out with an aniline blue pencil with Reid's lines. A mark was made at the junction of the upper and middle thirds of the line corresponding to the fissure of Rolando. This point was exactly on the part of the scalp which was tender to percussion with the finger tip. In the evening the whole head was again washed with soft soap and then with turpentine, after which a dressing of lint soaked in a 1 in 1000 solution of corrosive sublimate was applied over the whole scalp and was left on until the time of operating. The operation was performed on July 1st, 1894, at 11 A.M. Immediately before the administration of chloroform a quarter of a grain of morphia was injected hypodermically. A horseshoe incision was made from a point two inches behind and above the right ear to a point two inches behind and above the external angular process of the right orbit, the convexity of the incision reaching to the sagittal suture. The scalp and periosteum were raised in one sheet, the vessels being caught in clip forceps. A one-inch trephine was applied at the point overlying the junction of the upper and middle thirds of the fissure of Rolando, and a crown of bone was removed. The same trephine was again applied a little above and in front of this hole and another crown was removed. The two trephine circles overlapped, forming one opening. On removing the crowns of bone the pulsations of the brain were observed. The dura mater was incised along the posterior and lower margins of the opening about a quarter of an inch from the edge of bone. On raising the dura mater the cranial contents bulged up and the lower and back parts of the exposed surface were seen to be brain, but the major part was tumour, which was easily distinguished from the adjacent brain substance by its uniform bluish tint. The opening in the skull was then enlarged, chiefly forwards and upwards, by cutting away the bone with punch forceps, the dura mater was divided until the whole surface of the tumour was exposed surrounded by brain except at the upper part where the tumour was attached to the dura mater. The exposed area of the tumour was about the size of a penny (the part which was seen is indicated as a circular patch in the engraving of the upper surface of the tumour). It was readily separable from the surrounding brain by a director, but it was then found that about half an inch from the surface the growth expanded in all directions. As the upper part of the tumour was attached to the dura mater this point was untouched until the body of the growth had been cleared. By enlarging the opening in the bone, by incising the dura mater when necessary, and by carefully working with a flat periosteal elevator, the tumour was lifted out of the brain and then only remained attached to the dura mater. It was not found necessary to damage the brain in any way. By working with the elevator on the denser new growth the elastic tumour came out of its bed and through a comparatively small aperture in the surface of the brain. The cavity in which it had lain slowly closed as the tumour was removed. There was not much bleeding from the cavity, and what there was very soon ceased. One cortical vein was ligatured. The tumour was then taken away along with the dura mater, and in separating the latter a vein was cut across close to its point of entry into the longitudinal sinus. This vein was caught in clip forceps and ligatured with catgut. The shallow cavity now left was filled with corrosive sublimate gauze, the tail of which was brought out at the posterior part of the scalp wound. The scalp was sutured with silk and a dressing of corrosive sublimate gauze and wood-wool was applied. The operation lasted about an hour. The patient was returned to bed considerably collapsed, the pulse feeble, extremities cold, and general sweating. At 3 P.M. he was still unconscious. Respiration was 14 per minute; the pulse 100 per minute. The pupils were very small; conjunctival reflex returned. The extremities were warm. The patient moved his head. At 6 P.M. the patient regained consciousness and felt comfortable. He vomited once or twice.

Except from the diploe there was very little bleeding. From the diploe more than a pint of blood was lost, and this

FIG. 1.

Upper surface of tumour (natural size).

FIG. 2.

Under surface of tumour (natural size).

was much the most serious contingency. During the the operation the brain was not handled, all the manipulations being on the tumour, the flat surface of the periosteal elevator alone coming in contact with the brain. The instruments and sponges were kept in a 1 in 40 carbolic lotion. There was very little sponging, and all things were kept as dry as possible. There was never any free lotion in the wound. The dura mater having been removed on account of its attachment to the tumour, the pieces of bone were not replaced; a permanent opening is thus left in the skull, measuring two inches and three-quarters by two inches and a quarter.

Description of the tumour.—The appearance presented by the tumour is well shown in the two plates, which represent the actual size of the growth. It measured 3 in. in length, 2 in. in breadth, and 1¼ in. in depth. On microscopical examination the tumour proved to be a sarcoma.

After progress.—The progress of the patient after operation was in every way most satisfactory. The temperature only once reached 100° forty-eight hours after the operation; on four other occasions only did it rise above 99°. After the first forty-eight hours the pulse ranged between 72 and 88. As an immediate result of the operation the vomiting and the noises in the head ceased, the pain in the head was relieved, and the irritability of temper disappeared. With the exception of the night after the operation, when sleep was broken, the patient slept about eight hours each night. For the first twelve days the wound was dressed daily on account of the large amount of cerebro-spinal fluid which saturated the dressings. On the third day the gauze plug was removed. This was not accompanied by any hæmorrhage, but a small fusiform piece of brain substance, one inch in length and a quarter of an inch in diameter, came away with it. On the fourth day the entire scalp and face were very much swollen and œdematous, especially on the left side, on which the patient had been lying. This swelling, which continued during the fifth day and gradually subsided on the sixth without having produced any ill-effects, appeared to be entirely due to extravasation of cerebro-spinal fluid into the subcutaneous tissues. The wound united by first intention with the exception of the small opening, through which the cerebro-spinal fluid continued to leak for about three weeks. There was profuse diuresis during the whole of the third week. For five days six pints of urine were passed in the twenty-four hours. On the sixth and seventh days of the third week nine and a half pints of urine were passed. The urine was clear and did not contain either sugar or albumen. The muscles of the left arm and leg rapidly regained power in the following order On July 3rd there was already some increase in the power of the extensors and flexors of the forearm. The patient could extend and invert the left foot and flex the great toe to a very slight extent. On waking on the morning of the 7th the patient stretched himself, and the nurse noticed that he stretched out the left arm as well as the right, and also extended the fingers of the left hand, movements which he was quite unable to execute voluntarily while fully awake. On the 9th the power of flexion and inversion of the left foot and of flexion of the great toe had increased. The associated movements of the left arm occurred each morning when the patient stretched on waking. On the 12th he got out of bed and walked across the room. In doing so he was able to carry the left leg forward more strongly than before the operation. On the 17th the patient could abduct and raise the left arm a little. In the erect position he could fully flex the elbow, and the rigidity of the biceps had diminished. There was a distinct increase in power in both the flexors and extensors of the hip-joint and of the knee-joint. When lying on his back he could flex and invert his foot and flex the toes to a slight extent. In walking the left foot was no longer dragged, but was carried forward with a semicircular sweep, and when planted showed a tendency to assume a position of slight equino-varus, with the toes spread out. The reflexes had not changed in character since the operation. On the 20th the fingers were voluntarily flexed for the first time. On the 23th there was considerable power of flexion in the left thumb and index finger. He could walk about the house without any support. On the 30th the thumb and all the fingers of the left hand could be feebly extended. On Aug. 1st the left wrist could be slightly extended. On the 10th the wrist and fingers could be fully flexed and extended and a stick could be grasped in the left hand. The optic neuritis had very much diminished since the removal of the tumour. On the 13th the hand could be pronated and supinated. On Sept. 3rd all the muscles of the left upper limb could be made to contract voluntarily and all movements executed, though much less strongly than on the right. He could walk two miles with the help of a stick. On Oct. 10th the patient felt well. There was no headache, pain, or noise in the head. He slept and ate well, and his general health was excellent. He could walk as many as five miles with the help of a stick. He could use the left arm for many purposes. He could touch the back of his head, take off his cap, and use a fork with the left hand. There was, however, some rigidity of the muscles of the arm. The muscular sense was still deficient, but not to such an extent as it was three months before. He still walked with a limp, but could advance the left foot fairly well, and there was less circumduction than there had been. The reflexes remained just as they were before the operation. Only slight traces of the optic neuritis could now be seen. There was slight bulging of the scalp over the site of the tumour, but now that the hair had grown again this showed but little.

Remarks.—The improvement which had taken place in the condition of the patient within three months of the removal of the tumour was very considerable. From being unable to lift the arm or walk further than across the room, the patient could use the arm for many purposes and walk five miles without fatigue. The headache, vomiting, and noises in the head were removed at once by the operation. The optic neuritis steadily subsided after it. The after-progress was as straightforward as it usually is after quite a minor operation. The treatment was carried out in an ordinary bedroom, and, except at the operation itself, without the aid of skilled nursing. The improvement has been fully maintained, and the patient is now (March 5th, 1895) in excellent general health. He says that he can walk "any distance." The grasp of the hand is as strong on the left as on the right side.

Newcastle-on-Tyne.

CASE OF A GIRL SAID TO HAVE BEEN MIRACULOUSLY CURED OF PARALYSIS AT ST. WINEFRIDE'S WELL, NORTH WALES.

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THE publicity given in the daily and weekly press to the "miraculous cures" that have been effected at Holywell, the pictorial representations of St. Winefride's Well in several of the illustrated papers, and the fact that for several weeks past I have been the recipient of letters of inquiry from various parts of England, most of them hitherto unanswered, must be my excuse for placing in THE LANCET the medical facts of a case already encircled by the halo of romance and round which is being thrown an air of mystery. For some time past Holywell has been the resort of an increasing number of invalids, each hoping by immersion to be suddenly relieved of his or her infirmity. If the stories of the "miraculous cures" thereat accomplished can be accredited the Well of St. Winefride bids fair to rival Lourdes, whose grotto is now world-known, and of which and the hordes of human wrecks that besiege it Zola has given us a marvellously realistic delineation. Holywell claims its cures not less truly though less pretentiously than the little French town that nestles in the Pyrenees; and, as one of the recent cures that have taken place at Holywell concerns a patient who was formerly under my care in the Newcastle Infirmary, I shall briefly state the history of her case before her visit to the Well of St. Winefride and since her return from it, simply introducing here and there relevant facts that have been supplied to me by the patient or the mother, who accompanied her to North Wales.

The patient, a young woman aged seventeen years, was admitted to the Royal Infirmary, Newcastle-upon-Tyne, on April 28th, 1894, complaining of curvature of the spine, pain in the legs and of difficulty in walking, pains in the head, and occasional dimness of sight. Her father died fifteen years ago from typhoid fever; her mother is still living and healthy. She has five brothers and one sister, all of whom are rather delicate. At the age of eleven patient left school, but owing to ill-health did nothing until

she was fourteen years of age, when she entered domestic service, leaving it a year afterwards on account of sore-throat. She began to menstruate at the age of sixteen and has been regular. The patient stated that her spine had been bent as long as she could remember, and that she has always walked with her head fixed and thrown a little forward. During June, 1893, she had left-sided pleurisy without effusion, and was in bed for a month with it. On recovering she noticed that she walked more bent than formerly, and that she had pain in the head and neck; but it was not until eight months after this that the pain affected her legs and knees. The pain is described as having been constant and more of an aching character, aggravated by walking or if the limbs were touched. Her condition on admission was as follows. Alimentary system: the lips were normal and the teeth fairly good; the tongue was large, pale, and coated with white fur. She had some dysphagia owing to enlarged tonsils. The palate was highly arched, which caused the patient to speak rather indistinctly. Her appetite was poor and the bowels were constipated. Circulatory system: the pulse was 84 and feeble; the heart sounds were normal; the lungs were healthy; the pupils were fully dilated and equal; they reacted to light and accommodation. Nervous system: there was slight angular curvature of the spine, most pronounced in the dorsal region. There was marked hyperæsthesia on touching the skin over the spine, and on percussing it pain was felt particularly in the lower dorsal region. On pressing the head down towards the spine pain was felt in the cervical region. On pricking the sole of the left foot with a pin no pain was experienced at all, but there was hyperæsthesia of the right sole. Sensation was normal in the front of both legs. Ankle clonus was present. The knee-jerk was normal on engaging the patient's attention. On asking her to walk it was noticed that the head was thrown forward and that she somewhat dragged the left foot. On May 5th, 1894, the borders of the optic disc were even and the retina was healthy. There were still analgesia of the left foot and excessive knee-jerk in both legs. As the case was regarded as neurotic or one of a functional character in a girl the subject of a slightly curved spine of old standing and unaccompanied by any symptoms of increasing cord pressure, it was not considered necessary to retain her as an in-patient in the infirmary. Here it may be stated that prior to coming under my care the patient had been treated by one of my surgical colleagues, who regarded the case as one of hysterical spine.

I saw nothing more of the girl until, receiving several letters in regard to her "miraculous cure" at Holywell, I wrote to the mother asking that her daughter might be brought to me at the infirmary for examination. This was done on Feb. 7th of this year, and the following statement was supplied to me by the mother. In November, 1894, her daughter was lying in bed a perfect cripple. She was quite unable to stand. She had not been out of bed for seven months, hence the fact of her not appearing at my out-patient department at the infirmary. Mr. Galbraith of Gosforth had attended her from time to time. Owing to information of a friend in the county of Durham "having been miraculously cured of lameness at Holywell," it was arranged that the patient in question should visit the sacred well. Accordingly, in the early morning of Nov. 27th she was dressed, lifted from bed, and taken by a cab to the railway station, placed in the recumbent position in a third-class railway carriage, and conveyed to North Wales, reaching Holywell station in the evening of the same day. Thence she was carried by the porters to an omnibus and thus driven to the hospice, a distance of one mile and a half. The hospice is stated to be a receiving home for Roman Catholic patients visiting Holywell, and is superintended by two nuns. It is not, however, confined exclusively to Roman Catholics. Protestants are equally admitted, provided they give some indications of their faith in the virtues of the water. The patient was one of several inmates, male and female, and at ten o'clock on the morning following her arrival at the hospice she was wheeled to St. Winefride's Well, where she was stripped. She put on a bathing dress and was carried by her mother and another woman who was staying at the hospice into the well. Shortly after her immersion the patient is stated to have fainted, but in spite of this she was retained in the water. There was no religious service going on at the wellside, nor had there been any special service that morning at the hospice before leaving—nothing but the ordinary service, which, however, the patient had not attended. The patient, I may remark, is a Roman Catholic. It appears that after the immersion no immediate effect was noticed. She was therefore wheeled back to the hospice and placed in a chair in the general ward. After sitting in a bent position for an hour the mother states that her daughter sat upright, and maintained this position more or less all that day, but made no attempt to walk. Next morning at the same hour the patient was wheeled to St. Winefride's Well and again immersed. After a few moments she is said to have moved both legs, and to have raised herself up the steps out of the well. She subsequently walked back to the hospice—a distance of about half a mile—supported between her mother and another woman. On the day succeeding this the patient walked to the well in company with, and supported by, the same two friends, and was again immersed. When in the water she is credited with having said, "Mother, what a queer sensation; there is a burning heat in my back." To which the mother responded, "Oh, Hannah, pray, you are going to be cured." The patient immediately afterwards walked out of the well to the dressing-room, where "steam was noticed rising from her body," and a feeling of tingling and heat complained of in her spine, and the mother on examining the back uttered, "Oh, Hannah, your bones have gone in." She walked back to the hospice, where she was examined by a medical man, who pronounced her a marvellous cure. That evening she walked to the town and for the next three days strolled about. Exactly one week after their admission the patient and her mother left the hospice, the daughter sitting bolt upright in the omnibus. To the surprise of the porters at Holywell station she walked into the train. She reached home on the evening of Dec. 4th, walking at the end of her long journey from the tramway terminus to Coxlodge, a distance of nearly a mile. Her condition on Feb. 7th, 1895, was as follows. There was still slight inclination of the head to the right, causing an apparent shortening of the right side of the neck. There was also slight lateral curvature of the spine in the dorsal region, the inclination being to the right, with distinct prominence of the two lower dorsal spines. No pain was complained of on percussing the spine. On bending it was noticed that the column moved *en masse*, with a tendency for the body to be deflected to the left. There was slight hyperæsthesia of the skin of the back, the prick of a pin and the application of the blunt point of a pencil being evidently followed by exaggerated impressions. The knee-jerks were excessive; there was slight ankle clonus. The patient walked remarkably well and was evidently proud of being able to do so. There was no halting or dragging of the limbs. When walking it was noticed that her head was thrown forwards and with a distinct inclination to the right side. She still wore a poroplastic jacket which was supplied to her in the early part of 1894, and on the recommendation of the medical practitioner who saw her at Holywell was going to wear it all the winter. Her heart and lungs were healthy. Menstruation was regular.

These, then, are briefly the medical facts of the case. A girl who was recognised by myself in April, 1894, as a neurotic, with slight spinal curvature but without evidence of increasing pressure on the cord, and by one of my colleagues at the infirmary as suffering from hysterical spine, subsequently developed paralysis of the lower extremities, which lasted for six months. There is no need to doubt the paralysis any more than there is to question her present ability to walk. The patient left home in November for Holywell strongly buoyed up with hope and with great expectations in regard to her recovery, having received the Holy Communion in bed on the day before starting. The charge at the hospice is 7*s.* a week for each inmate. This, with the railway and other incidental expenses, made it absolutely necessary, as the family belonged to the labouring classes, that the visit to North Wales should not be unduly prolonged. It is difficult to appraise at its proper value the effects of immersion of the whole body in an exposed well of cold water in the early morning of a November day upon one unaccustomed to such a proceeding, but at any rate they must be considerable. What want of will caused and what strength of will failed to accomplish in our patient strong physical and mental impressions overcame. It is not the first time that cold water suddenly applied to the external surface—over a large area and nearer home than Holywell—has roused up dormant nerve energies and been followed by results as satisfactory and permanent as the *cure* of the patient in question "miraculously" accomplished by dipping in the Well of St. Winefride.

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TROPHIC INTESTINAL AFFECTIONS IN THE INSANE.

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FROM time to time cases of diarrhœa arise in insane people which are not due to any specific cause. This "simple" diarrhœa usually occurs in one or other of what Kraft-Ebing[1] calls the "organic psychoses," and in general paralytics for the most part. It is of comparatively long duration, and is very often fatal. The necropsy reveals an enteritis or a colitis, which is often ulcerative, or both combined. The causes of these intestinal affections are not at all evident. None of the ordinary causes are present. The clinical and pathological accounts are in all strikingly similar, and it is most probable that all these cases have a similar origin. There are two varieties of this simple diarrhœa, although the more serious one is probably only an advanced stage of the milder variety, and not a distinct type. 1. A very watery alvine flux, very frequently repeated, without passage of blood or excess of mucus; usually without any pyrexia or marked general symptoms. This may be fatal, but is often recovered from. Obvious intestinal lesions are rarely observed. 2. A frequent diarrhœa, with vomiting, pain, often tenesmus, and with marked constitutional symptoms. The stools often contain blood, excess of mucus, and slime occasionally. This affection is usually fatal. The necropsy shows an inflammatory affection of the ileum or colon, and often marked ulceration of the mucous membrane. We have had under our care in the asylum at Prestwich, Manchester, a fair number of such cases. During the last three years thirty-two cases have thus arisen which have proved fatal. (See table below.) It will be seen from this table that the greater proportion occur in males and in those suffering from general paralysis of the insane. The remainder occur in either stuporous melancholia or in dementia of an incurable type. Most of the cases occurring are of the second variety.

Clinical history.—Twenty-two cases are in males and ten in females. The age varies from twenty-six to sixty-eight years, but most of the patients are over forty. The duration of the illness varies from three days to as many months. The onset may be sudden or gradual, the mode of onset varying with the acuteness of the attack. The symptoms vary somewhat with the situation and extent of the lesions. Diarrhœa is usually the earliest and most striking symptom. Vomiting occurs at times, but not invariably so, being often absent. Abdominal pain is a very variable quantity, some appearing to suffer pain, but this is not common. The demented condition of most of the patients of course renders them less susceptible to, and less apt to complain of, pain. Distension of the abdomen occurs but rarely. The stools are generally loose, small in quantity, but frequently passed. Tenesmus is at times present, especially when the lower bowel is affected. Blood is often found in the motions and often unmixed. Slime, shreds of tissue, or even sloughs are at rare intervals seen. The stools have a very offensive smell usually. There is excess of mucus at times. Perforation with resulting peritonitis is rather rare. Pyrexia is moderate, irregularly manifested, and often absent. A fatal result is the rule, but a few do undoubtedly recover, although presenting serious symptoms.

Pathological Appearances found.

	Cases.
Patchy congestion of ileum and colon	3
" " " " " " + enlarged solitary follicles	3
" " " " " " + submucous hæmorrhages	1
Subacute enteritis	2
Acute enteritis and colitis	2
Follicular ulceration of the ileum	3
" " " " colon	4
Ulcerative enteritis (ileum)	3
" colitis	7
" enteritis and colitis	4
	32

The amount and extent of the congestion of the mucous membrane are very variable. It usually affects both the small and the large intestine, but is more general in the ileum. The patches are small and discrete as a rule, but they may coalesce, forming largish areas of congestion. The colour varies from the bright red of inflammation to the dull red of passive congestion. If the congestion become extreme there is a tendency for submucous hæmorrhages to occur. One form of ulcer is probably produced by the abrasion of the already damaged mucous membrane superficial to one of these hæmorrhages. The solitary follicles are very often enlarged. This condition is usually found in the colon, although by no means uncommon in the small intestine. Peyer's patches are rarely affected. The follicles are swollen and softened, and there is a tendency to their disintegration forming small rounded ulcers and leaving patches of healthy mucous membrane. This follicular ulceration of the intestine is fairly common, seven cases of the thirty-two showing this condition markedly. In two cases perforation had occurred (Nos. 3 and 12); in both the ulceration was confined to the ileum. The ulcers had extended in depth, forming punched-out conical cavities through the peritoneum forming the floor, of which an opening had formed with resulting peritonitis. In the colon the follicular ulcers, while remaining of small size, showed much variety in their depth, and often extended down to the peritoneal coat of the bowel. This was well seen in Case 8. Follicular ulceration is, we think, essentially different to the next form—ulcerative enteritis and colitis. This ulcerative process is more common than the follicular one, and is *sui generis* apparently. The ileum and lower part of the jejunum in the small, and the ascending and transverse colon in the large, intestine are the parts affected usually, but no part is exempt. The mucous membrane of those parts is congested, swollen, and softened. Here and there, in a mild case, are irregular ulcerations, often with yellow adherent sloughs in parts. The ulcers are of various shapes and sizes, and in a severe case tend to run together so as to form an irregular network of ulceration, leaving islets of sodden and congested mucous membrane in their meshes. The bases of the ulcers are but little thickened. The floor may be formed by submucous tissue, by muscular fibre, or by the subperitoneal tissue. Perforation may occur, but in our experience is not common. The solitary follicles may be swollen, are rarely ulcerated, and not seldom are normal in appearance where they can be distinguished. Peyer's glands are commonly unaffected or but slightly swollen. The mesenteric glands are at times enlarged and softened. The acute inflammatory affection of the intestine present the usual appearances of acute enteritis or colitis. The inflammation is often intense and quite localised, but without any local causation within or without the bowel. An intense phlegmonous enteritis may even thus arise without any evident cause. In the case described in association with a dorsal myelitis, the inflammation of the upper part of the rectum was most intense, the inner coats having sloughed out. In a few cases evidences of diseased bloodvessels were found (atheroma), but whether this had any part in the degenerative process is doubtful. Microscopically, the usual signs of inflammation were present, but nothing specific was made out. The organisms present were those usually found in the intestine, but the bacillus coli communis was especially common. An inoculation of some of the contents of the gut on nutrient media often yielded an almost pure culture of this organism. In all these cases there was a total absence of any specific disease. In fact, we have excluded all cases in the records in which there was the least suspicion of tubercle, typhoid fever, dysentery, Bright's disease, or syphilis.

These are the facts. How can they be explained? Writers on medicine describe, but as a rarity, a simple ulcerative enteritis or colitis. Fagge[2] says: "Apart from typhoid fever and tubercle the small intestines are very little liable to serious primary diseases, and the jejunum particularly is remarkably exempt." Hale White[3] describes a most interesting series of twenty-nine cases of "simple ulcerative colitis and other rare intestinal ulcers." He, however, throws no light on their origin, which he says is extremely obscure. In asylum practice these simple ulcerations and inflammations are by no means infrequent, and this is shown by the fact that in our practice during the last three years at the Prestwich Asylum, Manchester, thirty-two such simple uncomplicated cases have been examined after death. We venture, therefore, to put forward the proposition that these intestinal lesions form a part of the general degenerative process, and that they owe their origin to a nervous perversion. The only term that expresses this perverted nervous action is the rather vague one of a trophic or a dystrophic affection. The

[1] Lehrbuch der Psychiatrie, fourth edition, page 325.

[2] Fagge's Medicine, third edition.

[3] Guy's Hospital Reports, 1888.

reasons for such an opinion are: (1) the rarity of such lesions in the sane; (2) the comparative frequency in the degenerate insane; (3) negative evidence as to causation; (4) their association with other trophic lesions; and (5) the association of such lesions with disease of the central nervous system.

The mental and nervous affections associated with these lesions are, as has been shown, of a markedly depressive or degenerative nature. It is not at all unusual in the degenerate insane, and more especially in general paralysis of the insane, for trophic lesions to occur—e.g., atrophies of skin, muscles, and bones; acute sloughings of tissues, as seen in acute bedsores and herpetic and bullous eruptions in the so-called "insane abscesses"; a peculiar low form of pneumonia, which is probably of nervous origin; and acute cystitis of so-called trophic origin. Some of these lesions occur in the same patients in whom the intestinal affections arise later. In fact, one or other of these tropho-neuroses is always present. In one man trophic ulcers of the legs were present (Case 4). Dr. Hale White[4] describes a case of "intense colitis" associated with disease of the central nervous system (double descending lateral sclerosis). Dr. Acland[5] "raises the question whether in diseases of the spinal cord we may not get an ulceration of the intestine comparable to other trophic lesions, such as acute bedsore. He records two cases of disease of the spinal cord, in both of which small ulcers are found in various parts of the bowel." Curiously enough, a short time ago a similar case arose in this asylum. A localised phlegmonous inflammation of the large intestine occurred in association with a transverse myelitis in the dorsal region. (See notes.) In this case there was no local cause for the affection of the gut, and the only explanation valid was that the lesion was a trophic one.

We may thus explain the causation of the two varieties of "diarrhœa" first described: 1. The watery alvine flux frequently seen in general paralytics is due apparently to centric irritation of the vagus nerve. Buzzard[6] regards a similar condition met with in certain cases of tabes as dependent upon irritation of the vagal nucleus in the medulla. "In these cases the flux is probably the result of paralysis of the splanchnics—the vaso-motor nerves of the intestines—and to the resulting transudation of fluid from the blood-vessels into the bowel, with the accompanying increased peristalsis."[7] This vaso-motor paralysis gives rise probably to the varying patchy congestions and hæmorrhages. 2. The ulcers found are very often of the round, punched-out appearance which is usually held to be of dystrophic origin, and seen *par excellence* in the gastric ulcer.[8] The other variety of ulceration, as best seen in the ulcerative colitis, is probably due to the same influence—i.e., to a further extension of irritation of the nuclei in the medulla, causing a trophic inflammation and ulceration of the intestine. The ulceration once started is probably extended by the influence of the intestinal microbes on tissues of lowered vitality and powers of resistance. The bacillus coli communis is most potent for evil in this respect. Subjoined is a summary of the fatal cases with fuller reports of nine of the most typical cases. In conclusion, the tropho-neurotic origin of these intestinal affections seems to us the only possible explanation of their occurrence in the present state of our knowledge. Little notice seems to have been taken up to now of these neuropathic lesions, and there are but few and scanty references to them in the journals and text-books. We think, therefore, that some description of these very interesting cases should be published, so that they may be more generally recognised and investigated. We wish to thank Mr. H. R. Ley, the medical superintendent, for his kind permission to use the notes of the cases.

Phlegmonous inflammation of the large intestine, associated with myelitis of the dorsal cord.—A man aged thirty-four years was admitted in 1886 suffering from acute mania. He never improved, but became after a while feeble-minded with a few fixed delusions. His bodily health remained good until March, 1892. He was then found to be suffering from a gradually increasing weakness of the legs. This weakness rapidly increased until he became almost completely paraplegic (both of sensation and of motion). The knee-jerks were absent. There were retention of urine and incontinence of fæces. He complained of girdle pains at the level of the ninth dorsal vertebra. Early in April, 1892, he began to suffer from vomiting, abdominal pain, and diarrhœa. There was no rise of temperature. The stools contained blood, but the blood was not mixed with the fæces. On April 20th he passed a cast of the intestine two inches long, which was evidently the mucous membrane and part of the muscular wall of the gut. Examination per rectum was negative. The diarrhœa persisted, but at intervals only. Later he developed cystitis with irregular rises of temperature. He had a small bedsore. He died from exhaustion on May 18th, 1892. The necropsy showed a transverse myelitis at the level of the eighth and ninth vertebræ, with a spinal meningitis also localised. There were thickening and roughening of the vertebræ at this level, but no definite tuberculous lesion existed. There were evidences of old tubercle at the left apex (of lung). Cystitis and pyelitis with commencing abscesses in the kidneys were present. There was an intense proctitis, but of limited extent, affecting the middle part of the rectum. The inner coats had sloughed away, leaving a rough, shreddy surface. No evidences of any local origin of this rectal affection were found. The rest of the bowel appeared to be fairly healthy. The intestines were moderately distended.

Trophic Intestinal Affections in the Insane.

No.	Sex.	Age.	Mental disorder.	Intestinal lesion.
1	M.	68	Senile mania.	Patches of congestion throughout entire tract.
2	M.	44	General paralysis.	Patchy congestion; solitary follicles of colon enlarged.
*3	M.	50	Do.	Follicular ulceration of ileum; perforation.
4	M.	37	Chronic mania.	Patchy congestion of colon with superficial ulceration.
*5	M.	34	General paralysis.	Patchy congestion of ileum and colon with submucous hæmorrhages.
*6	M.	57	Do.	Ulcerative colitis; follicles enlarged.
*7	M.	55	Do.	Enteritis.
*8	M.	47	Do.	Follicular ulceration of the colon.
9	M.	34	Do.	Patchy congestion of ileum; follicles enlarged.
10	M.	26	Epileptic dementia.	Follicular ulceration of colon.
11	M.	43	General paralysis.	Ulcerative colitis; submucous hæmorrhages.
12	M.	68	Chronic melancholia.	Punched-out round ulcer in ileum, which had perforated; ulcerative colitis.
13	M.	43	General paralysis	Patchy congestion of ileum and colon
14	M.	43	Do.	Patchy congestion of ileum; ulcerative colitis.
15	M.	51	Chronic mania and dementia.	Patchy congestion of ileum; ulcerative colitis (superficial and deep, rounded ulcers).
16	M.	48	General paralysis.	Patchy congestion and superficial ulceration of ileum.
17	M.	63	Secondary dementia.	Ulcerative enteritis and colitis; follicles enlarged.
18	M.	33	General paralysis.	Ulcerative enteritis; follicles enlarged.
19	M.	40	Do.	Ulcerative enteritis; congestion of colon.
20	M.	50	Do.	Patchy congestion of colon; enlarged follicles.
21	M.	49	Do.	Follicular ulceration of colon; congestion of ileum.
*22	M.	54	Melancholia attonita.	Ulcerative enteritis and colitis.
23	F.	34	Do.	Subacute enteritis; submucous hæmorrhage.
24	F.	29	Do.	Follicular enteritis.
*25	F.	28	General paralysis.	Ulcerative colitis.
*26	F.	35	Do.	Patchy congestion of ileum; ulcerative colitis.
27	F.	28	Do.	Patchy congestion of ileum and colon.
28	F.	50	Acute melancholia with stupor.	Enteritis and colitis; enlarged follicles.
29	F.	46	Chronic melancholia.	Inflammation of ileum and ascending colon.
30	F.	38	Epileptic dementia.	Patchy congestion; superficial ulceration of ileum.
31	F.	40	Secondary dementia.	Ulcerative enteritis and colitis.
32	F.	50	Chronic melancholia.	Ulcerative colitis.

* The cases marked (*) are described more fully.

CASE 3. *Follicular ulceration of ileum in a general paralytic.*—A man aged fifty years was admitted on April 11th,

[4] Ibid.
[5] Transactions of the Pathological Society of London, 1885.
[6] Diseases of the Nervous System.
[7] Bevan Lewis: Text-book of Mental Diseases.
[8] Cf. Dr. W. M. Ord, St. Thomas's Hospital Reports, 1892.

1892. He was in the second stage of general paralysis. He had already become demented, but still retained his old exalted delusions. His muscular power was feeble and his muscles were shrunken. His skin was greasy and shiny. He was wet in his habits. On May 5th he was found to have slight right hemiplegia, which passed off in a few days. On July 8th he complained of abdominal pain and tenderness about the umbilical region. He vomited several times and was evidently very ill. There was slight looseness of the bowels. Previously there had been constipation for a few days. The temperature was normal. The stools were dark coloured, but did not contain blood. On July 9th the vomiting and abdominal pain continued. There was dulness on percussion in the left iliac fossa. There was marked tenderness of the abdomen which was slightly tympanitic. The stools were liquid, but did not contain blood or slime. The temperature was subnormal. There was evidently peritonitis. On the 10th he died, collapsed, early in the morning. The necropsy showed marked congestion of the mucous membrane of the last four feet of the ileum. The solitary follicles were enlarged and in a few ulceration had begun. Six rounded punched-out ulcers were found in the above area and in two cases perforation had occurred with resulting peritonitis. There were no other lesions found anywhere, and no tubercle or other specific disease.

CASE 5. *Patchy congestion of ileum and colon with submucous hæmorrhages in a general paralytic.*—A man aged thirty-four years was admitted on March 19th, 1892, suffering from general paralysis of the insane in its second stage. He presented the usual physical signs of that disease. Mentally, he was demented, irritable, and childish. He rapidly got worse and was bedridden in the course of the next six months. At times he suffered from looseness of the bowels, which alternated with constipation. Towards the end the diarrhœa became more marked. The motions were yellow, liquid, but never contained blood. Signs of hypostatic pneumonia developed during the last week. On Sept. 7th he died from exhaustion. The necropsy showed marked patchy congestion of the ileum and colon, with submucous hæmorrhages. The solitary follicles were not enlarged. There was no ulceration of the intestine or sign of tubercle. The lungs showed hypostatic congestion of the bases.

CASE 6. *Ulcerative colitis with general paralysis of the insane.*—A man aged fifty-seven years was admitted on Oct. 25th, 1892, suffering from general paralysis of the insane with exaltation. The case was a typical one in onset and course. The only symptom of intestinal trouble was the occurrence of rather severe diarrhœa, from which he suffered off and on during the last month of his life. The stools were watery, pale yellow, and did not contain blood or mucus. There was no vomiting. No pyrexia was present. Treatment was of no avail. He died exhausted about three months after admission. The necropsy showed the usual changes in the nervous system found in general paralysis. There was slight hypostatic pneumonia of both lungs and marked atheroma of the arteries. There was commencing granular change in the kidneys. The mucous membrane of the descending colon and sigmoid flexure showed several very congested and inflamed patches. Towards the centres of these patches, which were of limited extent, the surface of the mucous membrane was abraded, leaving small shallow ulcers. The solitary follicles were enlarged, but none showed any ulceration. There was some thickening of the wall of the gut opposite to these patches. The bowel was not distended. The small intestine appeared to be normal.

CASE 7. *Catarrhal enteritis in a general paralytic.*—A man aged fifty-five years was admitted on Oct. 31st, 1892 suffering from general paralysis of the insane with melancholia. He had marked delusions of obstruction of the bowels, and was at one time very suicidal. About a week before his death he began to suffer from diarrhœa. He did not complain of pain, but there was some tenderness over the lower part of the abdomen. No vomiting occurred. There was moderate pyrexia, the temperature rising and falling irregularly, but not rising higher than 102° F. He died rather suddenly in a sort of faint. The stools were loose, yellow, and contained much mucus, but not blood. At the necropsy patchy congestion of the lower part of the ileum and cæcum was found. The congested surfaces were rough and granular, but showed no definite ulceration. The solitary follicles were not affected.

CASE 8. *Follicular ulceration of the colon in a general paralytic.*—A man aged forty-seven years was admitted on Dec. 8th, 1892, suffering from general paralysis of the insane with delusions of exaltation. He presented the usual symptoms of that disease, which ran its usual course, until the onset of intestinal troubles. He began to have diarrhœa on March 7th, 1893, with vomiting and pyrexia. The temperature rose to 103·6° F. There was some pain in the abdomen, which was at first "board-like," without tenderness. The stools were yellow, liquid, and very offensive. During the next week the pyrexia continued, the temperature varying from 99° in the morning to 102° in the evening. The diarrhœa continued, the bowels acting very frequently. There was no marked tenesmus. The stools were yellow, almost like "pea-soup," and at times contained shreds of tissue and blood. There was also occasional vomiting. The abdomen towards the last became distended and tympanitic. There was some tenderness over the left side of the abdomen. Treatment was of no avail. He died from exhaustion on March 12th, 1893. The necropsy showed extensive changes in the large intestine, the whole of the colon and part of its sigmoid flexure being affected. There was much congestion of the mucous membrane in patches. The solitary follicles were greatly swollen, and many of them presented punched-out ulcers. In some the ulcerative process had only just begun, but in others the ulcers had nearly extended to the peritoneal surface of the bowel. None had actually perforated. The mucous membrane between these ulcers was darkly congested and superficially abraded. The wall of the bowel was distinctly thickened. The small intestine appeared to be normal. The brain showed the marked changes found in general paralysis. There were marked atheroma of the large vessels and considerable emphysema of the lungs.

CASE 22. *Ulcerative enteritis and colitis in a case of melancholia with stupor.*—A man aged fifty-four years was admitted on Dec. 11th, 1893, and died on Sept. 11th, 1894. He was tall, stout, but unhealthy-looking. He suffered from melancholia attonita. He used to sit in one position for hours, seeming quite crushed down by an overpowering weight of woe. He remained in the same dull, stuporous condition during the remainder of his life. He often had to be fed with the stomach tube. On Sept. 4th, 1894, there was slight pyrexia. Diarrhœa set in, with some abdominal pain. There was no vomiting. The stools were loose, yellow, and did not contain blood, slime, or mucus. On Sept. 5th the temperature in the morning was 100° F. and in the evening 100·6°. He passed frequent loose motions in small quantities. The abdomen was rather retracted. He did not complain, but this was probably due to his stuporous state. On Sept. 6th he was much the same. The tongue was dry, brown, and cracked. There was moderate pyrexia. The diarrhœa continued. On Sept. 8th streaks of blood and shreds of tissue were noticed in the stools. The looseness of the bowels continued. He was weaker. There were no fresh physical signs. The patient's condition steadily grew worse. The abdominal symptoms were persistent. The diarrhœa was as before. Death occurred on Sept. 11th from exhaustion. The necropsy showed marked ulcerations of the lower part of the ileum, and almost the whole length of the colon. The mucous membranes of the ileum and the colon were darkly congested, swollen, and superficially ulcerated. The solitary follicles were somewhat enlarged, but not ulcerated. Peyer's patches were unaffected. The ulceration of the ascending and transverse colon was most extensive, leaving here and there isolated patches of swollen but otherwise normal mucous membrane. The edges of the ulcers were sinuous, cleanly cut, and in the floor muscular fibres were exposed; none had, however, perforated. The other organs were healthy. The liquid fæces in the intestine were yellow, blood-stained, and most offensive. A growth was obtained from the intestine on agar-agar and on potato, which consisted of an almost pure culture of bacillus coli communis.

CASE 25. *Ulcerative colitis in a general paralytic.*—A woman aged twenty-eight years was admitted on July 7th, 1893, suffering from general paralysis with melancholic symptoms. She fancied that she had committed some dreadful crime and was eternally damned. There were typical physical signs of general paralysis. Her bodily health was fair. On Aug. 16th, 1893, vomiting and diarrhœa occurred for the first time. There was pain in the abdomen without tenderness or distension. The stools were loose, offensive, and contained a little blood. These symptoms persisted until the death of the patient, which occurred from exhaustion on Aug. 24th, 1893. There was slight pyrexia on the last two days. At the necropsy all the organs were found to be healthy except the colon. The brain presented the usual changes due to general paralysis. There was marked congestion of the cæcum and the ascending colon, with several

superficial ulcers of irregular shape, but rounded for the most part. The solitary follicles were not markedly enlarged.

CASE 26. *Ulcerative colitis with general paralysis of the insane.*—A woman aged thirty-five years was admitted on June 13th, 1893. She suffered from general paralysis with melancholia. She also had delusions of great sins committed and of eternal perdition. On Oct. 22nd, 1893, she began to suffer from diarrhœa, which persisted for two months. There was no vomiting, and pain was rarely complained of. There was no abdominal distension. The temperature at times rose to 100° F. The stools were loose, frequent, and contained at times blood, but never slime or shreds of tissue. Death occurred from exhaustion on Dec. 20th, 1893. The necropsy showed patches of congestion in the lower part of the ileum, and a rather chronic colitis. The mucous membrane of the colon was softened, thickened, and superficially ulcerated. The bases of the ulcers were thickened, and the floor was ragged and uneven, and stained a dark yellow by adherent fæces.

THE TRANSFER OF FEVER CONVALESCENTS, AND ITS EFFECT UPON THE OCCURRENCE OF ALBUMINURIA.

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DURING the year 1894, 1219 scarlet fever convalescents were transferred by road ambulance from the London hospitals of the Metropolitan Asylums Board to the Gore Farm Fever Hospital at Darenth. The patients were transferred at various stages of the disease, from the seventeenth day after admission onwards, and in all weathers and seasons. The object of this paper is to show what effect the transfer had upon the occurrence of albuminuria amongst those transferred.

Albuminuria, systematically examined for, was observed in thirty-nine patients within the first twenty-four hours of their arrival at the Gore Farm Fever Hospital. A trace of albumen is here excluded from consideration, unless proved by subsequent observations to have had clinical significance. The albuminuria observed in the thirty-nine patients referred to was for the most part considerable in amount—e.g., one-sixth to one-half albumen—and in at least six cases was accompanied by more or less hæmaturia, the more representing porter-coloured, the less smoky urine. Inquiry as to the previous history of these patients elicited the fact that five of them were under treatment for albuminuria at the time of transfer. These five will not again be referred to. The remaining thirty-four cases were either known or presumed to be free from albuminuria at the time of transfer. In nine of them an intermittent trace had previously been observed, but in none of them the considerable degree of albuminuria found after transfer to Gore Farm Fever Hospital. It is probable, therefore, that the transfer determined the onset of albuminuria in 34 out of 1219 patients transferred (2·78 per cent.), though it is possible that in some of these the albuminuria was not of fresh onset, but of greatly increased degree. The clinical course of the cases was remarkable, and may be illustrated by reference to the case of a male aged eight years. He was presumed to have no albuminuria at the time of his transfer. The urine passed during the night after his arrival at Gore Farm Fever Hospital was heavily laden with albumen, and gave blood reaction. During the next three days a trace only was observed. The urine then became entirely free, and remained free from albumen during the several weeks this patient continued under observation. While the case may be taken as typical, in some the trace of albumen persisted much longer than three days, and in four cases it persisted throughout the patients' stay in hospital. The rest were, at the time of their discharge, in perfect health and quite free from albuminuria. Thus the features which the 34 cases had in common were—(1) absence, or presumable absence, of albuminuria at the time of transfer; (2) a large amount of albuminuria immediately after transfer; (3) rapid subsequent disappearance or great diminution of the albuminuria. These striking facts would seem to establish fully the connexion between the transfer and the albuminuria. Assuming this connexion to be established, some points of interest arise which may be referred to. 1. Out of the total number of patients dealt with during the year 128 were transferred, in three weeks or less from the dates of their admission, to the acute hospitals; they include 6 albuminuric cases, an incidence of 4·6 per cent. upon such cases. 735 patients were transferred after a stay in the acute hospitals of four weeks or more; they include 22 of the albuminuric cases, an incidence or 2·9 upon such patients. The chance occurrence of a case or two so appreciably alters the percentage that comparisons cannot fairly be based upon such small figures. Were any inference justifiable it would support the natural conclusion that early transfer involves a greater risk of precipitating albuminuria. 2. The incidence of the attacks did not appear to increase with the mileage traversed. Thus 653 patients were removed a distance of about fifteen miles, the incidence upon these patients being 3·51 per cent.; 394 patients were removed a distance of about eighteen miles, the incidence upon these being 3·04 per cent.; 172 patients were removed a distance of about twenty-two miles, the incidence upon these being 0·58 per cent. It must again be pointed out that when split up into several groups the number of cases becomes too small to form a safe basis for statistical inferences. It may be that a few miles more or less are immaterial. If any inference is to be based upon the figures it is that the occurrence of the attacks depends not upon the distance traversed but upon the attendant circumstances of the transfer. 3. With regard to the nature of these albuminuric attacks, I have no doubt that they would be rightly called nephritis. From the results it would appear that they are a form of nephritis which is of less serious consequence than that which attacks a scarlet fever convalescent who has never left the shelter of the sick-room. This fact is, after all, only an example of a clinical truth, namely, that organs which become inflamed from some definite external cause show more reparative power than those which develop inflammation independently of apparent external cause.

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NOTES ON PULSE-RATE AND BODY TEMPERATURE.[1]

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THESE few notes on the above subjects are taken from a series of observations made on myself during a period of three years, extending from June, 1891, to June, 1894, and may possess some interest owing to the fairly long period of time over which they extend, even though the results do not present any striking novelty, but merely confirm in the main the accepted statements on these subjects. These observations on both pulse and temperature were taken—as regularly as circumstances allowed—four times a day—viz., after breakfast, after lunch, before dinner, and at bedtime—corresponding in the main to about the hours of 9 A.M., 2, 7, and 10 P.M. The figures thus obtained weekly for each time of day were reduced to an average, and these averages to a general weekly average. Finally, an average for the whole year at each time was struck, and these last were taken together for the three years. This calculation gave the following results: temperature in the rectum at 9 A.M. 98·7° F.; at 2 P.M. 98·9°; at 7 P.M. and at 10 P.M. 98·8°—showing on the whole a scarcely perceptible difference for the different times of the day, such slight difference as was noted being in accordance with the accepted doctrine of a rise in temperature towards the middle of the day, and a fall towards night; but the evening temperature (7 P.M.) was not so high as that at two o'clock. A reason for this may be looked for in the fact that the latter time was *after* a meal; but the effect of so slender a meal as lunch must have been very small indeed, since on several occasions when observations were taken before and after dinner (a heavier meal, but without alcohol) the difference of temperature was only 0·2° (0·3° in the mouth). On the other hand, the difference of the rectal temperature before and after breakfast was 0·4° in the mouth, the difference rising to 1·1°.

[1] A paper read before the Physiological Society on Jan. 26th, 1895.

Taking now the three yearly averages for the different weeks separately, and so forming an annual temperature curve, a similarly slight degree of total variation is seen. It appears that the highest sustained average temperature occurred in the winter and early spring months, as may better perhaps be seen by taking four weeks together, when we obtain for these lunar months, commencing in the middle of June, the figures 98·75°, 98·75°, 98·80°, 98·72°, 98·80°, 98·89°, 98·92° (December), 98·90°, 98·97°, 98·90°, 98·95°, 98·82°, and 98·85°. This result is in agreement with what we might perhaps expect, since in cold weather loss of heat must be more rapid, and so a higher level of temperature should be maintained to compensate for increased radiation, just as small animals, which lose heat more quickly in proportion to their bulk than large ones, have generally higher temperatures. Before leaving this part of the subject it may be noted that the temperatures in the mouth and rectum respectively bore to one another a very variable ratio, the latter being almost invariably the higher, with an average difference of 0·8°. Thus on some occasions, as immediately after eating, the temperature in the mouth exceeded that in the bowel; while on others, as during vigorous exercise, the heat of the mouth sank considerably—e.g., to 96°—that of the rectum rising to 99·8° or 100°.

Coming to the pulse-rate, one fact which was well marked was the regular fall in frequency throughout the day, the average number of beats at each of the four times of observation mentioned being respectively 88 (72), 86 (71), 80 (67), and 77 (64), the numbers in parentheses being those taken in the sitting position, the others standing. A steep rise in pulse-rate appeared to occur at breakfast time, the average rate before this meal being, on the few occasions when it was observed, 80 (64), and after breakfast 89 (73). The heart would thus appear to tire slightly with its work during the day and to recover its energy by the night's rest, being thus at its best in the morning, as seems to be the case with the mental faculties and perhaps with all the functions of the body; one might even suggest a causal connexion. The ratio between the pulse-rates taken in the sitting and standing positions respectively varied within very wide limits, the difference being on some occasions not more than three or four beats and at others as many as thirty, without any apparent reason. The average difference for the whole time was fifteen beats. It occurred to me that atmospheric pressure might have some influence on the rate of beat, but a comparison of the pulse-rates for the different weeks with the readings of the barometer did not give any definite result, though during a sojourn in Norway, when staying at very different altitudes for successive weeks, there appeared to be a tendency for the pulse-rate to fall with the barometer, very low frequencies being found at high altitudes, and also on many occasions very low temperatures; but this correspondence may well have been a mere coincidence.

On hearing the above notes Professor Burdon Sanderson was good enough to call my attention to the observations of Professor Jürgensen[2] on body temperature, and also to lend me the paper in which these are published. These experiments were carried out under very different circumstances from my own. Several different subjects were taken; they were kept in bed for the most part during the course of the experiments made, and other observations were made at very frequent intervals throughout the day, often several times in a single hour. They thus afford a very exact record of the normal body temperature, free from all disturbing influences such as the ordinary business of life introduces, but it was obviously not feasible to keep a healthy man in bed for experimental purposes for any considerable length of time, so that each series of observations was confined to a space of a few days, and the whole were comprised within one year. Comparing Professor Jürgensen's results with my own, it appears that the average figures obtained by him for the four times of day at which my observations were taken are 37°, 37·3°, 37·5°, and 37·3° C. respectively, or approximately 98 6°, 99·1°, 99·5°, and 99·1° F., showing a rather higher level sustained throughout and a maximum towards evening, corresponding to the familiar fact in clinical observation where the conditions are similar. These observations were all taken per rectum.

In conclusion, I may perhaps mention that the times chosen for taking observations in my own case were not ideally the best, but were such as a more or less busy life rendered possible. It is unnecessary to emphasise the fact that such observations as these made on only one individual can have but a limited value for establishing any general rule, while fallacies owing to the "personal equation" may lurk in making experiments on oneself. My best thanks are due to Dr. Mott for kindly looking through these notes, and for affording me the opportunity of submitting them to the distinguished society before whom they were first produced.

Charing-cross Hospital.

[2] Die Körperwärme des gesunden Menschen; Studien von Professor Dr. Jürgensen. Leipzig, 1873.

A CASE OF EQUINIA (GLANDERS); RECOVERY.

BY T. W. H. GARSTANG, M.R.C.S. ENG.

THE rarity of the occurrence of recovery from equinia is my excuse for recording the following case. The patient, a veterinary surgeon fifty-four years of age, concluded a period of attendance on a certain horse suffering from "nasal catarrh" of a suspicious type on March 22nd, 1894. On April 4th the animal, having had a relapse, was brought to his house. He administered a "drench" on the spot, and whilst doing so the horse coughed, and a quantity of sputum bespattered his arm and face. This was at 10 A.M., and he, being pressed for time, set off on a professional journey without washing. The arm felt "uncomfortable" the same night, and the patient had "felt ill" ever since. It was not until April 12th that I was called in, and on this date I was consulted for a pustular rash on the right arm, said to have appeared the day before. The above history was not at that time given to me. The case was treated with compound sulphur ointment. On the following day the patient reported his arm as "better." On the 14th he had gone out when I called, and I did not see him; but he had left a message that he was still "better." On Sunday, the 15th, I was sent for at midday, and was then for the first time able to make a complete examination. The man was practically covered with pustules from head to foot. The face and scalp had a few, the chest and back more; but the extremities suffered most; the inner surfaces of the arms and thighs were very bad, but the right thigh was the worst of all. Here the skin was completely covered with pustules in the following stages: small, hard lumps forming subcutaneously, the size of a pea or bean; similar lumps burst and discharging pus; others scabbed over; and, finally, foul ulcers of various shapes and sizes where the scabs had separated. The most intense burning and itching were complained of. The extremities were said to feel as though "wrapped in blankets through which scalding water was being poured." Rubbing and scratching were incessant, although that only aggravated the pain. The pustules were appearing in rapid successive crops, about twelve hours sufficing for a given one to run through the whole of the stages mentioned above. The patient, though much prostrated, refused to go to bed, and managed to keep on his feet. I gave him a strong dose of iron and quinine, and feeling sure that he had not more than a few days to live arranged that Dr. D. J. Leech of Manchester should see him on the following day. On this day, the 16th, there was a discharge from the nose and eyes, and the legs were so greatly swollen that the patient said "they felt as if they would burst." Boric acid dissolved in Carron oil was ordered locally, with a nasal douche of Condy's fluid, and the iron and quinine were to be continued. On the following day the patient appeared slightly easier. During this time he was taking a large quantity of brandy, and by the 20th I had to administer large doses of bromide. Improvement, however, continued slowly in the local symptoms, though the patient still refused to go to bed and was very obstinate about treatment of any kind. Sometimes he would refuse to take his medicine or to obey orders in any way. By the 24th the rash had disappeared from the arms, leaving only red and purple stains to show where it had been, and the legs were improving. On the 25th a large quantity of pus was expectorated from the lungs; also on the 26th. The nasal discharge had increased. His strength was greatly impaired. On the 28th a quantity of sputum was collected and sent to Dr. Leech for bacteriological examination. By May 2nd the rash had disappeared everywhere, and the nasal discharge and expectoration of pus had ceased. On the 11th I

discontinued my visits, as he would do nothing he was told. From the 17th to the 22nd he resumed his professional work, getting about with some difficulty in his gig. On the 23rd I was sent for again. I found the patient suffering from nasal discharge and a rash on the arms and body, very much like that first seen on April 12th, with some pustules and ulcers on the legs. The original treatment was resumed, and by the 28th the symptoms were all abating. Finally, on June 4th, he expressed himself as "quite well," although a few scattered spots still remained; but they were causing him no trouble or inconvenience. Since that date I have not seen him professionally; but he has resumed his ordinary work. The bacteriological examination resulted negatively.

Remarks.—I attended a fatal case of farcy in August, 1885, which was reported in THE LANCET of Oct 24th, 1885; and although there is a sharp contrast in the clinical histories of the two cases there are one or two points of agreement. The causation was the same—viz., the contact of the virus of a diseased horse with the unbroken skin of the right arm, and the omission to wash the arm immediately afterwards. The period of incubation in this case was seven days exactly; in the previous case the patient was also ill in seven days, though nasal trouble did not supervene for sixteen days more, and it was twelve days after that that the first "farcy bud" formed. The patient in the first case died in forty-eight days; the patient in the present case was convalescent in thirty-seven days, with a relapse on the forty-eighth day, and final convalescence in sixty days. I am convinced from observation that the eruption in both cases was of an identical nature, although in the one it was scanty and slowly developed, in the other profuse and running a rapid course. The patient in this case was a veterinary surgeon in large practice. He diagnosed glanders for himself, and abandoned all hope of recovery. It will be interesting to record his own opinion of the disease in the horse. He said it always commenced in "nasal gleet," from which the animal might recover; but that when the gleet "ran on" to glanders or farcy recovery was impossible. The horse which is supposed to have infected this patient recovered. On this argument being used in objection to his diagnosis, he said that a horse suffering from nasal gleet may be placed in a stable with two healthy horses, and one of them may immediately develop glanders and the other farcy, and both die, while the horse suffering from nasal gleet will recover, never showing anything more than that discharge. In other words, a non-fatal case of gleet may be the immediate and direct cause of a fatal case of either glanders or farcy; and this, he declared, was well known among veterinary surgeons. My patient was seen by Mr. Purcell, M.R.C.S., of Ballyneen, co. Cork on May 1st (an accidental visit by an old personal friend), who agreed with the diagnosis, and candidly informed his friend that recovery was impossible. He was also seen during the course of his illness by others qualified to form an opinion—e.g., horse-dealers and persons who had had practical experience of glanders in the horse; and they all took the same view as Mr. Purcell. I showed the patient to a medical *confrère* on April 18th and to the medical examiner of an insurance society on April 28th; these gentlemen had not seen a case previously, so their opinions may perhaps not carry much weight, and I will therefore only say that they expressed full agreement with the view of the case which I put before them. Moreover, Dr. Leech on March 16th had no doubt of the nature of the case, and quite agreed with me that the prognosis was most unfavourable. I am careful to place on record the whole of this indirect evidence, because the failure of the bacteriological examination may seem to place the case among those considered "doubtful"; but it must be remembered that the sputum examined was collected only on April 28th, when there was to the naked eye already great improvement on the purulent condition which had existed on the 25th and 26th, and when the general condition of the patient had been steadily improving for twelve days. When I first saw him on April 12th I was only shown the right arm, and the rash was very like one which had puzzled me a fortnight previously, and which turned out to be scabies; hence the first prescription of compound sulphur ointment. For the remainder of the time the treatment was never varied from that ordered on April 16th, except by the vagaries of the patient, who occasionally refused his medicine, but on his own account consumed large quantities of brandy. The urine was non-albuminous throughout. Headache was for many days intense. There was no vomiting. The nasal discharge was troublesome for about a fortnight. The sputum for a few days seemed to point to the formation of pustules similar to those in the skin in the internal mucous surfaces. There was threatened erysipelas of the face, but it subsided. The genuineness of the case is certain to my own mind after watching it closely. The recovery is undoubted. If it was probably spontaneous rather than due to the remedial treatment employed, still, as there is no specific known, I shall, if I ever have to treat a third case, use the treatment here detailed, not forgetting a free allowance of alcohol.

Knutsford.

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

ST. BARTHOLOMEW'S HOSPITAL.

A CASE OF OBSTINATE PLEURITIC EFFUSION WITH NEGATIVE PRESSURE IN THE PLEURA; ACCIDENTAL PNEUMOTHORAX; RECOVERY; REMARKS.

(Under the care of Dr. SAMUEL WEST.)

A YOUNG WOMAN aged nineteen years was admitted into St. Bartholomew's Hospital on Dec. 13th, 1894, with a history of occasional sharp pain in the left axilla, which she had felt for a fortnight. About ten days later she felt ill and shivered several times, and since then had had a cough with a little expectoration. She had been confined three months before, and had suckled her child till the day before admission. She looked poorly, but not ill. Her temperature was 100° F., and she presented the physical signs of a small pleuritic effusion at the left base. There was no bulging of the side or displacement of the heart. By Jan. 2nd, 1895, the fluid had increased so much that the lower two-thirds of the chest, back and front, were dull, and the heart was displaced so that the cardiac dulness extended an inch and a half to the right of the sternum. Paracentesis was performed with an ordinary trocar and long tube to the floor. Manometer pressure indicated four inches *negative* pressure of water with half-inch respiratory oscillation. No fluid was obtained, although the needle was evidently in a cavity. Air gained access to the pleura, and as the aspirator was not employed no fluid was removed. On Jan. 5th the patient was not so well, being depressed, nervous, slightly feverish, and with a good deal of dyspnœa. The physical signs were those of pneumothorax, the heart being displaced still further to the right and the stomach resonance absent, and a well-marked succussion splash obtained. Paracentesis was again performed in the same way. The manometer registered this time a *positive* pressure of four inches and a half of water, with a respiratory oscillation of an inch and a half. Ninety-seven ounces of clear serous fluid passed through the tube into a vessel placed on the floor about eighteen inches below the level of the puncture in the chest, with great relief to the patient. On removal of the cannula pressure was applied with strapping to prevent subcutaneous emphysema. The fluid was nearly solid with albumen and formed a little clot on standing. From this time recovery was rapid. The fluid did not form again and the air was very rapidly absorbed, so that five days later, except for a little dulness at the left base behind and slight hyper resonance over the upper parts in front, there was little to note. The breath sounds, though not equal to those on the opposite side, were distinct. By the 14th she was allowed to get up, and on the 21st she was ready to go out. The physical signs had completely disappeared, except for slight impairment of percussion at the base behind.

Remarks by Dr. WEST.—The case is interesting as showing how rapidly air is absorbed from the pleural cavity even when it has been some time inflamed, and how rapidly the lung may re-expand. The pleural pressures are interesting. That a negative pressure of as much as four inches of water should exist with an increasing effusion is, I confess, to me almost inexplicable. I was, unfortunately, not myself present

when the paracentesis was performed. Still I have no reason to doubt the statement made that that was a correct reading, and I record it as what must be accepted, I think, as a fact. It is certainly confirmed by the failure to obtain fluid and by the passage of air into the side This could not have happened with a positive pressure of such an amount. That the negative pressure of four inches should be converted into a positive pressure of four inches and a half is due to the rapid increase in the amount of the fluid after the first dry puncture, as was shown by the fact that three days later ninety seven ounces of fluid besides much air were removed without suction from the side. I suppose that this acted as a mild irritant to the pleura, much as iodine does. It for the time excited fresh inflammation and effusion, which, however, were followed by very rapid resolution of all, both recent and prior, mischief. Although the introduction of air in this case was accidental, while in other cases its introduction has been intentional, the rapid resolution of what appeared to be an obstinate effusion shows that the admission of aseptic air into the pleura may be in certain cases not only a justifiable but even a very successful method of treatment of chronic effusion.

SAFFRON WALDEN HOSPITAL.

A CASE OF LEFT PYONEPHROSIS; INTESTINAL OBSTRUCTION; UNUSUAL SYMPTOMS; NEPHRECTOMY; RECOVERY; REMARKS.[1]

(Under the care of Mr. HEDLEY BARTLETT.)

THIS case is one which presents many points of interest to the surgeon. The hydro-nephrosis appears to have followed cicatricial contraction after injury in the neighbourhood of the pelvis of the kidney, but the exact nature of this injury remains uncertain. The reason for the comparatively sudden increase in size and formation of pus in the large cyst is not clear, but the change was attended with very acute abdominal symptoms. It was a case in which the destruction of the kidney had been so extensive and complete that nothing would have been gained by any attempt to drain the cyst; all renal tissue had been destroyed, and drainage would only have resulted in a further loss of strength on the part of the patient.

The patient, a girl aged seventeen years, was admitted into the Saffron Walden Hospital on March 26th, 1894, with the history that in March, 1893, she fell from a horse and injured her left side, and had had pain ever since. During the last three months this pain had increased; she had also noticed a swelling in the left loin, which during the last month had gradually increased, until on March 25th it suddenly enlarged still more. Vomiting set in, and shortly afterwards the whole of the abdomen became very distended. She had had no action of the bowels for five days, and complained of difficulty in passing urine. On admission to hospital the temperature was 102° F., the respiration hurried, the pulse 100, and the skin sweating. The patient was a strong, healthy looking girl; she was lying on her back suffering from paroxysms of pain, and vomiting a biliary material. The whole of the abdomen was much distended, and in the left side, extending posteriorly into the left ilio-costal space and downwards to the left iliac fossa, was a very large, hard, nodular, semifluctuating swelling, which was dull on percussion and could not be easily moved as it was fixed in the ilio-costal space. The dulness was not quite so perfect anteriorly as in the space owing to the colon being distended with flatus. There was a line of resonance between the spleen and the tumour; the hand could also be dipped down between the lower limit of the swelling and the pelvis. Pressure over the swelling in front gave pain, but pressure behind in the ilio-costal space gave marked relief. On vaginal examination the ovaries were found to be normal, and the sound passed into the uterus the normal length. On sounding the bladder no stone could be felt. Dysuria was present; the urine was scanty and alkaline, containing a large quantity of pus. The catamenia were regular. The nature of the swelling was obscure. Was it a tumour from accumulation of fæcal matter in the colon or sigmoid flexure? Were the abdominal pain and colic intestinal or nephritic? Was the swelling a large fæcal abscess? Mr. Hedley Bartlett considered that if the nature of the tumour had been either of these there would have been more marked febrile disturbance, the intestinal symptoms would have been better marked, the position of the swelling would have been more iliac than in the ilio-costal space, and the vomiting more troublesome, probably stercoraceous in character. Was it an ovarian tumour? Was it a large lumbar or peri-nephritic abscess? There were no signs of spinal trouble, thus excluding lumbar abscess. All the physical signs pointed to pyonephrosis, hydronephrosis being at once excluded by the presence of pus in the urine. The diagnosis was that of pyonephrosis. The sickness continued, and as the bowels were not relieved a large enema was administered. The patient's condition was such that an operation was recommended and agreed upon. The usual lumbar incision was made, and a large, tense, hard, bulging cyst exposed. This was tapped; the contents were first a small quantity of pale limpid urine, followed by sixty ounces of pus and urine having a distinctly fæcal odour, suggesting that the colon had been opened. The finger and then a probe were introduced into the kidney cyst to explore for a stone, but the result was negative. The cyst being in such an advanced condition of disease, it was thought best to remove it instead of using drainage. The remains of the kidney cyst were carefully dissected from the surrounding structures to which it was adherent, the ureter was tied, and then the kidney vessels. A large drainage-tube was inserted into the space occupied by the tumour anteriorly, and another in the direction of the pedicle posteriorly. The wound was then sutured. The patient went on well for two days; on the third day, March 29th, she was very sick and became jaundiced. She had passed very little urine since the operation, the skin was dry, and the temperature normal. She was very thirsty and drowsy. On the 30th unusual symptoms set in. The patient was quite insensible and more jaundiced; the pupils were dilated; the tongue was dry and furred, and the breath offensive. She had slight convulsions and vomiting; the bowels were not yet relieved. The temperature was subnormal; she had a distressing hiccough. She passed about twenty-five ounces of urine. On the 31st the patient was still in much the same condition. She was fed on nutrient enemata and suppositories every two or three hours. The temperature was still subnormal; coma was well marked and the skin deeply jaundiced. About thirty ounces of urine were passed. As there was no improvement the patient was placed for from ten to fifteen minutes in a very hot bath and then in hot blankets, and pilocarpine injections administered. Half an hour after the bath she began to sweat profusely, and about an hour after it began to rally. The temperature went up to 103·6°; the convulsive twitchings lessened; the patient moved when spoken to, but was not yet sensible. An hour later she recovered consciousness. The patient now made a rapid and uninterrupted recovery with no further complications. By the end of April the wound had healed and the urine was normal.

Remarks by Mr. HEDLEY BARTLETT. — The cause of the pyonephrosis in this case was probably some injury to the upper end of the ureter or pelvis of the kidney, causing hydronephrosis, and then pyonephrosis due to intestinal flatus diffusing into the cyst. The sudden onset of urgent symptoms was probably due to some sudden blocking of the ureter, with rapid distension of the cyst. The five days' constipation before the operation was probably reflex in origin (not due to pressure). The ureter was evidently patent at times, otherwise there would have been more inconvenience and ill-health. The vomiting before the operation was also probably due to some form of intestinal poison circulating in the blood, not due to any mechanical pressure on the intestine. The symptoms after the operation were as follows: For two days there was satisfactory progress, between twenty-five and thirty ounces of urine being passed daily. There was no shock. The jaundice and vomiting developing on the third day after the operation and lasting three days were probably due to some form of poison being absorbed secondary to the constipation (? ptomaine poisoning). The coma was not uræmic in origin, as the patient both before and after the operation passed between twenty-five and thirty ounces of urine. The convulsions were also due to the same cause. It is an interesting point that the jaundice, the vomiting, the coma, and the convulsions all came on the third day after the operation and lasted three days. All these symptoms were relieved by purgation, enemata, and a hot bath with hot packing; clearly the symptoms were not uræmic in origin. It is also worthy of notice that the menstrual period had been over a week before the patient was taken ill. The

[1] Read before the Cambridge Medical Society, Nov. 2nd, 1894.

patient continues in good health. The specimen removed, when examined, showed simply a large suppurating cyst; there were so many adhesions round the upper end of the ureter that it was difficult to ascertain the nature of the injury.

Medical Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

Adjourned Discussion on Affections of the Nervous System occurring in the Early (Secondary) Stages of Syphilis.

AN ordinary meeting of this society was held on March 12th, Mr. LANGTON, Vice-President, being in the chair.

Before the adjourned discussion was commenced Mr. HUTCHINSON said that he desired to bring before the meeting some pathological observations which had recently been published by Dr. Laing of Paris on the acute form of paraplegia occurring early in syphilis. The patient was a workman aged fifty, who was admitted with paraplegia of a fortnight's duration. He had still the syphilitic eruption fully out over his body and the history was that infection had taken place a year previously. Weakness in the legs developed suddenly, and fourteen days later the paraplegia was complete and absolute, involving both bladder and rectum, and bedsores developed rapidly. He died suddenly, and the spinal cord was examined at once. A picture of a section of the cord in the dorsal region was shown. The investing membranes appeared normal to the naked eye. There was a development of colloid masses in the substance of the grey matter in the perivascular spaces around some of the larger vessels. In addition there were small, narrow areas of the cord which were undergoing degeneration, and these areas radiated inwards from the cortex towards the centre of the cord. The vascular meshwork of the pia mater was found on microscopical examination to be infiltrated with inflammatory cells; in the arteries there were signs of disease, one showing a small gummatous nodule around it, containing a myeloid cell, while others showed thickening of the coats with infiltration around. But the stress of the disease had fallen on the veins, there being large accumulations of inflammatory cells round them, and one was found to be thrombosed. Dr. Laing found these changes in the whole length of the spinal cord. Since the last meeting he (Mr. Hutchinson) had collated the notes of many other isolated cases, and in nearly all they occurred within a year of the infection. So far as his own notes were concerned, he had found a few cases which occurred at a later period of syphilis, but almost all of these were not typical instances of paraplegia. His main point was that the nervous symptoms, like the dermatological manifestations, should be classified according to the date or period at which they occurred.

Dr. ALTHAUS said that the paper which they had met to discuss and which dealt in a broad and comprehensive manner not with isolated facts, but with whole series of important clinical phenomena, had been very much wanted, because the possibility of the early occurrence of such nerve troubles as had been brought under their notice by Mr. Hutchinson was not yet thoroughly realised by the profession. He had met with such cases in which an erroneous diagnosis had been made because it was believed that specific nerve lesions occurred only four or five years after the primary affection. He related a case of hemiplegia which had come on eight months after infection, and had been diagnosed and treated as hysterical, and got steadily worse until specifically treated; and referred to a discussion at a sister society some years ago, in which two years was mentioned as the earliest period when specific brain lesions would become developed. He had himself seen a characteristic form of headache, followed presently by epileptiform seizures and hemiplegia, three months after infection; and related a case in which extensive disease of the cerebral arteries, with softening of brain tissue and other characteristic nerve lesions, had become developed three months after infection. He had met with several cases of analgesia in the secondary stage, and thought that this would be more frequently found if it were looked for. Acute multiple neuritis was no doubt sometimes the cause of the more or less general paresis with anæsthesia which was seen in the secondary stage, but acute encephalitis, ascending myelitis, and poliomyelitis might also occur during that period. He related a case of tabes which had become acutely developed seven months after infection, and where the patient made a very fair recovery under specific treatment. Early neuritis of single nerves was not uncommon, and he had found that the portio dura was more apt to suffer thus early, while in the tertiary stage the third nerve was more frequently affected. He had also seen neuritis of the sixth and of the ulnar nerves four and six months after infection. He then discussed the question whether there were any predisposing or exciting causes of early nerve syphilis, and said that he had seen it where the primary and secondary symptoms had been unusually mild, and also where they had been severe, so that the greater or lesser virulence of the initial symptoms did not seem to be of much influence. Specific treatment was, however, apt to be unduly neglected in mild forms of the disease. The two principal predisposing causes had appeared to him to be youth, for all his cases had occurred in young people, chiefly between eighteen and twenty-nine, and injury to the head, whether received previously or subsequently to infection. Other predisposing causes were neurotic inheritance, sexual and alcoholic excesses, and undue strain on the mind. The chief differences between early and late nerve syphilis appeared to him to lie neither in the nature of the lesions, for arteritis and syphiloma occurred both early and late, nor in their seat, as no portion of the nervous system appeared to be safe from the inroads of the virus at either period. Early nerve troubles were, however, more acute in their appearance, and more amenable to specific treatment, while tertiary affections had a slower and more insidious course, with a tendency to end in general paralysis. Nervous affections after the acute exanthemata, such as paralysis, the delirium of collapse, &c., might appear at a still earlier period—that is, before or immediately after defervescence; while a considerable interval between the cessation of the fever and the appearance of nerve troubles was exceptional. Influenza stood very much in the same line with the eruptive fevers in this respect. He had seen a few cases of what he might call tertiary nerve affections after influenza, but in no case had the interval between their appearance and the primary attack exceeded six months; while insanity, general paralysis, encephalitis, myelitis, and neuritis had frequently followed the attack at a very short notice. In conclusion, Dr. Althaus spoke strongly about the necessity of the full use of mercury in the cases under consideration. He preferred the hypodermic use of the metal, and injected the soluble perchloride, which was readily absorbed and eliminated, in acute and threatening cases, and an insoluble preparation, where the mercury was rubbed up with carbolic oil and lanoline, in the more chronic forms of the disease. The latter preparation was slowly absorbed and eliminated, and need only be injected once a week, while the perchloride should be injected daily for some time. No other remedy could be relied upon with such confidence in the gravest emergencies of this kind which might come under our notice, although even mercury was not infallible.

Sir WILLIAM BROADBENT said that his own contribution to this debate would be a very modest one. Though none who had heard the speech of Dr. Gowers could regret that it had been delivered, yet it had ranged wide of the subject matter laid down for debate in the introductory remarks of the President. The President had done well to rehearse the important clinical facts of the second and third stages of syphilis and the effects in these stages of iodide of potassium and mercury in treatment. He did not think that morbid anatomy could ever have convinced us that the manifestations of the third stage of syphilis belonged to the same disease and were produced by the same poison as the manifestations of the first and second periods; and if we extended our definition of the tertiary stage to include locomotor ataxy and general paralysis of the insane pathological anatomy would have been still more at fault. He agreed with Dr. Gowers that the ultimate clue to the diversities in this disease would eventually be found by an inquiry into the causative microbe or microbes and their toxines. The secondary lesions were characterised by their symmetry; the tertiary by their want of symmetrical grouping. The secondary lesions were caused by a disturbance of nutrition on the side of the blood; the tertiary lesions, on the other hand, were tissue changes initiated by blood changes, but which had ceased to have any immediate relation to blood changes. With reference to the production of therapeutic effects,

at present we had to rely merely on the observed effects of drugs, but later remedies would be applied not merely from a known experience of the effects of the drugs, but there might be an actual biological explanation of their action. He confessed that from his early work he had been of opinion that the effects of secondary syphilis were manifested upon the skin, mucous membranes, and bloodvessels, and were seldom of a destructive character. The tertiary lesions, besides involving the tissues in these situations, also involved the deep-seated viscera and nervous system. The late manifestations of syphilis were attributed either to the results of damage to the vessels done during the secondary period or to gummatous growths. Hence when he came across paraplegia during the first two years of syphilis he had been in the habit of looking upon it as a precocious tertiary manifestation. He referred to the case of a patient aged twenty-four who came under treatment last October, six months after the chancre signs of paraplegia began to show themselves. Another man, aged forty, came under treatment in July, 1894, with definite signs of paresis; he had acquired syphilis a year previously. These cases were clearly due to the effects of secondary syphilis upon the spinal cord, and he regarded it as really a myelitis and not a primary affection of the vessels. He had seen epilepsy in the second stage of syphilis which had yielded to treatment, and there was no recurrence after twenty years. Certain cases of spinal meningitis he had also attributed to secondary syphilis. In one such case there were pain and ataxic gait in the legs and in the arms rapid wasting of the muscles; the meningitis seemed to have affected the posterior aspect of the cord at the lower part and the anterior aspect of the cord at the upper part. Recently he had seen two cases in which a zone of anæsthesia rapidly developed.

Dr. FERRIER said that all neurologists looked upon syphilis as one of the most potent factors in diseases of the nervous system. The lesions might occur at any time; those which came under his notice were usually in the later stages of syphilis. He was not prepared to admit that syphilitic diseases of the nervous system should be separated into a distinct—a nosological—group. Jacksonian epilepsy was frequently caused by syphilis; so were hemiplegia, hemianæsthesia, and Bell's paralysis; and so also were the affections of the spinal cord which had been recently erected into a special group by Erb. He knew of no way of distinguishing these cases from others which were not syphilitic. He quoted five cases of the gradual type described by Erb. The first was a man aged thirty-five years who developed the symptoms two years after the chancre; the second, in a man aged forty-four, began a year after the chancre; the third, in a man aged forty-four, began ten years after the chancre; the fourth, in a man aged forty-four, began six months after the chancre; and the fifth, in a man aged forty-one, began thirteen years after the chancre. He then referred to five cases of sudden acute paraplegia. The first, in a man aged twenty-five, began six months after the chancre; the second, in a man aged twenty-five, began eighteen months after the chancre; the third, in a man aged about thirty, began eight years after the chancre; the fourth, in a man aged thirty-two, began two years after the chancre; and the fifth, in a man aged twenty-three, began three years after the chancre. He then mentioned three other cases in which the disease was of the gradual type and in which there was no history of syphilis, the first being in a man aged forty, the second in a man aged thirty-three, and the third in a man aged sixty-one These three last cases corresponded precisely with Erb's syphilitic group. Sudden paraplegia occurring in syphilitic individuals might turn out to be only the preliminary stage of a disseminated sclerosis; and he referred to two instances, both males, aged thirty and thirty-eight respectively, who illustrated this point. So far as the symptomatology of the spinal lesions went he was unable to distinguish the syphilitic from the non-syphilitic cases.

Dr. GEORGE OGILVIE quoted a number of statistics to show that the lesions of the nervous system to which Mr. Hutchinson had alluded had been recognised for more than twenty-five years as occurring in connexion with syphilis; that the symptoms often came on within a few months of infection, and hence belonged to an early stage of the dyscrasin, and all alleged that the disease showed a tendency to improvement, if not to recovery. He gave a list of the single cases of nervous disease occurring early in syphilis which he had been able to collect, and he referred to large series of figures by Fournier and others showing that a considerable percentage of the nervous troubles ensued within a year from infection. The specific dorsal myelitis which had been described was only one of the many nervous manifestations of syphilis that might occur early, and though the myelitis was more common in the early stage, yet it might occur also later. It had been said that these early lesions were symmetrical, but the symmetry was due to the seat of the affection; it was symmetrical because it was spinal rather than because it was secondary. The affection of the brain and of single nerves showed no tendency towards symmetry. There were two other transitory nervous symptoms often observed besides the analgesia which Mr. Hutchinson had described—an increased irritability of the superficial and deep reflexes, and a hyperæmia of the optic discs; the latter was said to occur in 30 per cent. of syphilitic patients. The irritability was probably to be explained by an alteration in the blood-supply of the nervous system similar to that to be witnessed in the optic disc. The analgesia, he thought, might be of hysterical origin.

Mr. COTTERELL said that the primary infection might be so mild that it would escape notice and the patient would then deny the history of syphilis. A man aged twenty-seven, giving no history of syphilis, presented in 1890 nodes on the clavicle. In 1894 he had an epileptic fit, there was blurring of the left optic disc, and the left lower extremity was weak. He thought that locomotor ataxy and general paralysis were not truly placed in the tertiary stage of syphilis, but really should be regarded as forming a fourth stage.

Dr. F. J. SMITH mentioned the case of a man aged twenty-eight who had suffered from a chancre eighteen months before the appearance of the symptoms. In July last he was stunned after a fall from a cart; later he developed a condition of typical paraplegia. The symptoms appeared to be due to neither a vascular nor a gummatous change, but were probably produced by a diffuse infiltration of leucocytes. He should describe Dr. Ferrier's cases of disseminated sclerosis as typical of syphilis; certain damaged areas had gone beyond the reach of iodide of potassium and mercury, but had not been absolutely killed; in these areas a slow sclerotic change had occurred, producing the symptoms complained of.

Dr. MOTT described a case which had been admitted into Charing-cross Hospital six years ago, the microscopical sections from the spinal cord of which were precisely like the drawings which had been shown. The patient was a man aged twenty-three, who was admitted with a typical "focal" myelitis; he had had syphilis less than two years before the onset of these symptoms. He died from an acute spreading bedsore, and at the necropsy myelitis was found, there being congestion of all the vessels with leucocytes in the perivascular spaces.

Dr. PARKES WEBER mentioned the case of a man aged forty-two who was admitted to the German Hospital in September, 1894. There was a history of chancre one year before, and on examination paraplegia was found, but it was unaccompanied by loss of sensation. He died from a large bedsore, and at the post-mortem examination the substance of the cord in the lower dorsal region was found to be softened.

Mr. HUTCHINSON, in reply, commented on the interest of at least three observations to the effect that in cases of paraplegia in which sensation was not lost nevertheless bedsore developed. One outcome of the debate was a strong emphasis of the fact that a majority of the cases of the nervous manifestations of syphilis did occur in the early periods. He knew that many such cases had been recorded, but they had nearly all been described as precocious tertiary manifestations. If we attempted a natural definition of syphilis we should describe the second stage as the blood stage, during which the patient should not marry, as he was still liable to infect his wife and his offspring. If this definition were accepted, then what Fournier and others regarded as manifestations of a tertiary stage we would call secondary, or at any rate "blood stage," cases. Dr. Gowers appeared to regard the tertiary phenomena as due to a chemical poison left behind by the syphilitic microbe. He himself regarded the tertiary phenomena as local phenomena due to an implication of cell structures and leading to cell growth; but this did not imply the existence of a poison still circulating in the blood; he did not believe that the blood was infected in any way in tertiary syphilis. Dr. Gowers had implied that the syphilitic remedies were not so useful in the purely inflammatory manifestations of syphilis, but in the inflammatory affections of the skin mercury certainly was

very useful. Dr. Ferrier's more typical cases of acute paraplegia appeared to occur during the early period of syphilis. The advisability of forming a special group of these syphilitic nervous manifestations had been doubted; there was no doubt that they were not absolutely special to syphilis, for he had often held that syphilis imitated but did not create, yet, nevertheless, as with skin syphilitic troubles, there were peculiarities about them which enabled skilled observers to say that they were probably syphilitic, and for that reason they were worthy of being put in a separate class. He had seen very few cases of acute paraplegia which were non-syphilitic and which recovered.

MEDICAL SOCIETY OF LONDON.

Hysterical Deafness.—Thirty Cases of Nephrorrhaphy.

AN ordinary meeting of this society was held on March 11th. Mr. H. H. CLUTTON, Vice-President, being in the chair.

Dr. HECTOR MACKENZIE read a paper on a case of Hysterical Deafness, with remarks on the diagnosis and treatment of this affection. He said little was to be found on the subject in the ordinary text-books, and very few cases had been recorded. Some authorities were sceptical as to the real existence of the malady. He thought it was important, therefore, to bring forward a case which did not admit of doubt, to refer to the points of importance in arriving at a diagnosis, and to call attention to the mode of treatment which had proved successful. There was a pretty general agreement in the accounts of the malady given by Politzer, Gruber, Hartmann, Briquet, &c. to the effect that hysterical deafness did exist, but was decidedly uncommon, and that it was usually unilateral, accompanied by hemianæsthesia, transferable from one side to the other, and of variable intensity. Jolly was almost alone in allowing that it might affect both ears, which was the case in Dr. Mackenzie's patient. The question of bone conduction of sound was one of great importance in the diagnosis. Hartmann and Walton observed greater impairment of bone than of aerial conduction. In Dr. Mackenzie's case both were equally affected, and this was what would *a priori* be expected in a malady where the impression-receiving and interpreting brain was at fault and not the organ of hearing itself. A case published by Ouspensky of Moscow seemed to show, however, that sometimes the bone conduction was not impaired. The important points in making the diagnosis of hysterical deafness were these: (1) the association of deafness with undoubted symptoms of hysteria; (2) the sudden development of the deafness after some emotional disturbance or shock or after trauma; (3) the absence of any sufficient cause for the deafness in the auditory apparatus itself as shown by the ordinary methods of examination; (4) the impairment of bone conduction of sound to at least as great an extent as aerial; and (5) the frequent coexistence of anæsthesia of the pinna and external meatus. The history of the case was as follows. The patient was a girl aged sixteen years. In November, 1891, she had a sore-throat during an undoubted outbreak of diphtheria at a boarding school. At the end of January, 1892, she had a slight attack of influenza. As she was suffering from earache after this attack her medical attendant Politzerised her. The girl screamed, and from that moment was extremely deaf. The medical attendant said he had perforated the drum. For some days the left ear discharged copiously a green fluid. About a week later the girl was taken to see an aural surgeon in London, who said he could see where the ear had been perforated, but that it was then healed. Galvanism was ordered locally and strychnine internally. Presently numbness in the limbs set in, so that the girl was anæsthetic all over except on the head and neck. She also lost power both in the legs and arms. For six months she was treated in London with massage and electricity, and gradually recovered sensation and power until she could use her hands perfectly and sew and write. She continued unable to hear, to raise herself, and to use the legs. The treatment was continued at Droitwich and Weston for two months longer without further improvement. From October, 1892, to March, 1893 she was at her home in Wales and remained in the same condition. In March, 1893, she was admitted to St. Thomas's Hospital. She then underwent a course of Weir-Mitchell treatment for ten weeks, with the result that she gained 22 lb. in weight, but without any impression either on the paralysis or the deafness. At the end of the time it required about six assistants to prop her up in the upright position, and to drag and push her in this position across the floor. As she had some power in her arms a gymnasium suit was obtained for her and she was taught by degrees to walk on her hands while the legs and body were supported. After a great deal of perseverance and the contrivance of various exercises, she gradually regained the use of her legs and recovered strength in her back. Progress was interrupted by an attack of scarlet fever in October, but on recovery from that none of the ground gained had been lost. The deafness at this time still remained unchanged. With the right ear the patient could hear nothing, but with the left she was able to hear a very little. Nothing abnormal could be detected on examination with the speculum. Bone conduction was apparently absent in the right and nearly absent in the left ear. The treatment of hysterical deafness recommended in most of the text-books was electricity locally. Briquet had said he had never known this to fail. It was said by some, Cure the other symptoms and the deafness will disappear, but others said it tended to remain unless treated. Here the other symptoms had been cured, and in spite of local blistering and galvanism the deafness still remained. Seeing it had been set up by Politzerisation local treatment did not seem advisable. Everything recommended in the text-books had thus been tried without effect and the deafness had lasted nearly two years. The mode of treatment which in the end proved successful was one which had been previously suggested in the *Marseille Médical* by Dr. Gilles. The attempt was made to re-educate the sense of hearing much in the same way as she had been re-educated in walking. The patient was made to listen to and to try to count the ticking of a clock at increasing distances, to listen to and attempt to repeat words and sentences spoken, first close to the ear and then at greater distances. The treatment was commenced on Dec. 21st, 1893. At the first trial the patient could not count the ticks of the clock even close to the ear. Gradually she succeeded and the clock was placed at greater distances. As the hearing improved in one ear, so it did in the other. The same was done with the spoken voice. At first a word was spoken near the ear, and was not heard until repeated six or seven times. After practising ten days in this way she had so far recovered as to be able to carry on an ordinary conversation. A week or two later the hearing had become of normal acuteness. The recovery of hearing was accompanied by great improvement in her mental condition. She became as bright and lively as she had previously been the reverse. It was now more than a year since she had regained her hearing; the restoration of hearing had been permanent and she had continued in excellent health.—Mr. CLUTTON said he had seen cases of hysterical deafness associated with hemianæsthesia.—Dr. HILL said that the diagnosis of functional deafness should not be accepted without great caution. In the instance related there was a strong suspicion of diphtheria, and he thought that perhaps it might be a case of diphtheritic paralysis. There was also a distinct history of traumatism, and the inflation of the tympanum might have been performed in such a way as to cause concussion of the labyrinth and temporary anæsthesia of the auditory nerve. This condition, added to the neurotic element, would serve to explain the symptoms. It should also be remembered that the auditory education of deaf-mutes had been most successful, and that in many of these there was organic disease.—Dr. TURNEY said that he was strongly under the impression that the case was one of hysterical deafness. The general paralysis was not of diphtheritic character; it was a case of typical functional general paralysis. It was also interesting to note that the same treatment—namely, education—which had been applied with success to the general paralysis had likewise proved successful in the ear, in which there was no sign whatever of organic disease. The recovery was too rapid to allow of any other diagnosis but that of functional disease. He added that in the majority of cases of hysteria the Weir-Mitchell treatment with isolation was sufficient to cure without a course of physical education.—Dr. SYMES THOMPSON, whilst fully admitting the immense value of the educational treatment in functional cases, yet wished to point out that in real disease of the ear steady systematic education had proved very successful.—Dr. MACKENZIE, in reply, said that it was improbable that the patient had ever had diphtheritic paralysis. Traumatism was a common cause of hysterical affections, but it was doubtful if concussion of the

labyrinth would last two years and then suddenly yield to such treatment as had been described. Dr. Thompson's remarks bore out his contention that cases of functional deafness were really more common than had been generally believed.

Mr. BRUCE CLARKE then read a communication on Thirty Cases of Nephrorrhaphy with their results. He said that the value of operation in this class of cases had sometimes been called in question, and he was anxious therefore to record with the after-history the ultimate results of these thirty operations. Two years ago he drew attention at the Royal Medical and Chirurgical Society to a class of cases of movable kidney which had previously attracted very little notice in this country, cases in which severe pain was a prominent symptom. The pain and other acute symptoms seemed to point to "acute renal dislocation" as the likeliest determining cause. Such cases were only one variety of floating kidney. His experience had shown him that it was rare to come across any case of the kind in which pain had been completely absent throughout, and as to the reality of these attacks of pain when they occurred no one who had seen them could have any doubt. The question to be determined was what was the probability of a successful result after operation. In his own cases the immediate result was successful in every instance, all the patients being alive at the present time. In by far the greater number pain was the prominent symptom, and the severity of the pain had led to the demand for relief. The pain usually came on suddenly, sometimes after a strain or severe exertion, sometimes after injury. It was often attended by vomiting, and later usually gave rise to local abdominal tenderness. The duration varied from a few hours to a day or two, and in some instances it might be cut short by manipulating the affected kidney—in other words, by reducing the dislocation. The condition of the urine during and shortly after the attack varied greatly; it might be scanty and bloodstained or almost porter-coloured, while in the less severe cases it was more commonly unaltered. In some of his cases the pain did not amount to more than an ache aggravated by exertion of any kind. In many cases during the intervals between the attacks the kidney was unduly tender to palpation. The first two cases were the only two instances in which the kidney was surrounded by a well-marked mesonephron, and in which therefore it was necessary to open the peritoneum in order to fix them firmly in position. In the first case the patient fifteen months later stated that she had not had any further pain in the loins. In the second the pain ceased for a few weeks and then returned with greater severity than before, so six months after the first operation he cut down and removed the offending organ in which, after removal, a small calculus covered with minute spicules was discovered. The patient made a rapid recovery and had since had no further trouble. The next case presenting special points for consideration was that of a woman who for over three years had suffered from movable kidney, having been quite invalided in consequence of the pain. The right kidney could be felt at times to be larger than the left. Mr. Bruce Clarke operated on the right kidney and fixed it securely in position. She had also complained of some pain in the left kidney, but this cleared up, and she ultimately recovered perfect health. Four other patients had at some time passed pieces of calculous material.—Mr. CLUTTON said that in some of the cases related it was open to doubt whether the calculus was really secondary to the movable kidney or had preceded that condition.—Mr. LOCKWOOD said that two years since he performed nephrorrhaphy on a woman, who had suffered so much pain from the movable kidney that she became pale and perspired profusely when she exerted herself. Three or four sutures were passed deeply into the kidney, and the patient was at present quite well. A great many of these cases were better treated with a horseshoe pad and abdominal belt, and those suitable for operation were not common.—Dr. H. MACKENZIE said that in the majority of cases the pain was neurotic, and the patients were not benefited by operation. He asked what cases were really suitable for surgical measures.—Mr. WALLIS said that a plea for early operation was to be found in the fact that if the patients were left till late some form of degeneration of the kidney was usually found to have occurred. Mechanical supports were difficult to adapt satisfactorily.—Mr. CLUTTON added that he preferred to use kangaroo tendon for suture, as in cases where silk had been used it had led to an obstinate sinus from the bottom of which a silk ligature ultimately came away. In the large majority of cases he found that the adaptation of an abdominal belt was successful, and he would only operate in cases where this measure failed.—Mr. BRUCE CLARKE, in reply, said he had adopted suture in cases where much pain was complained of, but nearly all had been previously treated by belts. He cut down, removed the perinephric fat posteriorly, passed a long curved needle through the lumbar fascia and renal substance, and scarified the posterior surface of the kidney to promote adhesion. In all cases he opened the renal pelvis to search for the cause of pain, and passed a bougie down the ureter to the bladder. He believed the condition of movable kidney was the first stage of many cases of hydronephrosis, though he admitted that a large number of these movable kidneys gave rise to no further symptoms.

CLINICAL SOCIETY OF LONDON.

Cerebral Tumour following Injury.—Association of Psoriasis with Diabetes.—Rupture of Gall-bladder and Liver produced by violent Straining in a Patient suffering from Obstructive Jaundice.—Traumatic Cystic Lympho-sarcoma of Shoulder removed by Amputation after Five Years' Growth.—Complete Unilateral Arrest of Development in a Child with Arcus Senilis and without Hemiplegia.

AN ordinary meeting of this society was held on March 8th, Mr. LANGTON, Acting President, being in the chair.

Dr. HANDFORD read the notes of a case of Cerebral Tumour following Injury. The patient, a man aged forty-three, had been injured by falling out of a cart upon his head. For the first fortnight he had no definite symptoms; afterwards he became mentally depressed, and experienced gradually increasing failure of muscular power. On admission to hospital four months after the accident there were general muscular enfeeblement, loss of control over the sphincters, and marked mental hebetude. Complete paralysis of the left face, arm, and leg supervened somewhat rapidly, with very extensive optic neuritis. There was headache, but never vomiting or local spasm. From the very close resemblance to a previous case recorded at length in *Brain*[1] a diagnosis was made of tumour, probably sarcoma, arising in the injured tissues and situated on the right side close to the motor tract. The patient was trephined, but the tumour was not found, and at the necropsy shortly afterwards a tumour was discovered 4 in. by 7½ in. in size, firm in consistence and dark in colour, situated behind and to the outer side of the right corpus striatum. Microscopically it was a vascular sarcoma, containing some spindle cells and in places a coarse meshwork filled with uninjured blood corpuscles. Dr. Handford expressed the opinion that the causal relation between the injury and the new growth was undoubted in each case, and that the frequency of such occurrences was somewhat under-estimated.—Mr. W. G. SPENCER said that he had read of a case in which a blow on the left side of the frontal lobe caused deviation of the eyeballs and weakness of the shoulder, which developed immediately after the accident and then disappeared. Six months later these symptoms returned and went on to the development of a cerebral tumour. Such a case was an instance of development of malignant tumour in a scar, and it perhaps went some way in confirming Hunter's view that tumours occasionally developed in blood-clot.—Mr. ARBUTHNOT LANE referred to a case showed two years ago by Dr. Pitt and himself. The patient struck the top of his head violently against the corner of a table. Later he felt that the spot on the top of his head was becoming soft. A malignant growth of the dura mater was diagnosed and the growth removed. Up to the present the patient had remained free from recurrence.—Dr. HALE WHITE had recently seen a man with a cerebellar tumour which developed at the site of a blow. Cerebral tumour was more common in males than in females, and it had been asserted that this was due to the greater frequency of blows in the male sex. But an examination of the records of the Children's Hospital showed that in children under five the excess of males over females affected with cerebral tumour was precisely the same as in adults, and therefore the excess was not presumably due to the greater liability of males to injury.—Dr. HANDFORD, in reply, said that his cases resembled each other and differed from those quoted in that

[1] P. 296, 1891.

the symptoms were more or less continuous from the time of the injury and then began rapidly to progress.

Dr. KARL GRUBE (Neuenahr) gave the particulars of cases illustrating the Association of Psoriasis with Diabetes. The first case was that of a man aged thirty-nine years suffering from the hereditary form of diabetes. The psoriasis had existed since his boyhood. It was observed that the psoriasis was less troublesome when the general condition of the patient improved, but while this improvement of the psoriasis lasted the diabetes advanced and death occurred at last from coma. The pancreas was found to be normal; there were secondary changes in the nervous system. In Case 2, the brother of the former patient, aged thirty, the patient had been suffering from psoriasis for many years; the diabetes was only discovered last year. It advanced very rapidly, and now there were the symptoms of the severe form; the psoriasis, on the other hand, had nearly disappeared. The third case was that of a man aged forty years with a history of gout. The patient had been suffering from very troublesome psoriasis for many years. When the diabetes set in some few years ago the psoriasis showed great improvement. Case 4 was that of a man aged fifty-five, who had suffered from psoriasis since 1865. In this case an alteration in the intensity of the psoriasis and diabetes could be observed at two periods. The psoriasis was very bad in 1890 and 1891, then it got better again, but it was found in the spring of 1892 that the patient, who complained of general weakness and loss of flesh, passed much sugar. An improvement of the diabetic condition was attained in the summer of 1892 and lasted for two years, but the skin affection became worse again. Having been treated for the latter in the summer of 1894 with good result, the amount of sugar had increased again since last October, and the patient had to be more careful with his diet. Dr. Grube did not believe that this combination was a mere coincidence.

Mr. W. ARBUTHNOT LANE read notes of a case of Rupture of the Gall-bladder and Liver produced by violent Straining in a patient suffering from Obstructive Jaundice. The patient was a woman aged fifty-four who was under the care of Mr. Reginald Clarke of Lee Park. Apparently in consequence of her having administered to herself an excessive purge, she was attacked with profuse diarrhœa on Dec. 16th, and during a violent expulsive effort she suddenly exclaimed that something had given way in the region of the gall-bladder. This was followed at once by pain, which became rapidly intense. Mr. Clarke found a large rounded tumour projecting the abdominal wall forward and having the relations of the gall-bladder. The motions passed during the day after the onset of the pain consisted almost entirely of blood, being later of what was apparently digested blood. The friends made no mention of this circumstance till after the operation. Mr. Clarke in consultation with Mr. Burroughs urged operative interference as the patient was becoming rapidly worse, and the patient consenting she was removed into St. John's Hospital, Lewisham, for the purpose. Mr. Lane saw her on the 21st, and though she was practically moribund agreed with Mr. Clarke that a relief of the distended condition of the gall-bladder might, even at this period, be of service to the patient. Consequently the greatly distended gall-bladder was exposed, the tumour at once projecting through the incision. It was incised and more than three-quarters of a pint of blood-clot was removed. As it was then found that the common bile and common hepatic ducts were enormously distended by the same material nothing further was done. Dr. Shaw examined the parts and found that the hepatic aspect of the gall-bladder, together with the adjacent portion of the liver, was rent, and that all the ducts in the liver also were filled with clot. In support of his explanation that the rupture had resulted during violent straining Mr. Lane quoted from a paper by Dr. Willard[2] a case in which death appeared to have resulted from rupture of a distended gall-bladder and from hæmorrhage into the peritoneal cavity. He considered his case to be of sufficient rarity and interest to place before the society. For many reasons it was very difficult to obtain from the friends of the patient any definite details prior to the operation.

Mr. W. G. SPENCER related a case of Traumatic Cystic Lympho-sarcoma of the Shoulder removed after Five Years' Growth by Amputation of the Right Upper Extremity, the flap being taken entirely from the upper half of the arm owing to the skin being widely involved. The patient lived in New Zealand and was now twenty-one. In 1889 he bruised the right shoulder, which remained painful, and in a few months a soft swelling slowly formed above the clavicle. During more than three years repeated incisions were made and drainage-tubes inserted, the interior of the cysts scraped, and the clavicle removed. He was attacked several times by inflammation, the right arm became swollen, and his general health suffered so that in June, 1894, it was stated to him that an early fatal issue was to be feared. During his voyage to England all the incisions healed, leaving the skin over the tumour marked by scars. All swelling of the arm disappeared, and upon arrival he was in robust general health. He was taken by Dr. Frederick Mouat to see Mr. Macnamara, who, being about to leave town, called Mr. Spencer in. Covering the right shoulder was a tense elastic tumour, which extended from the third rib in the anterior nipple line to the spine of the scapula behind and from the inner border of the sterno-mastoid muscle to the point of the shoulder. It projected upwards from the shoulder to the level of the angle of the jaw, and caused a bulging in the axilla below. All the central dome of the tumour was covered by scars, and there the tumour was more adherent and contained solid matter. At the periphery the skin and deep structures were free and no solid matter was to be felt. The arm was quite natural. In consultation it was agreed that the disease was probably an encapsuled cystic sarcoma, and that it was possible to remove it provided that the encapsulation was confirmed and that the vessels could be ligatured beforehand. Mr. Spencer first made an incision below, raised up the tumour from in front of the upper three ribs, cut across a partially reformed clavicle, and, by taking the third rib as a guide, ligatured the subclavian vein and artery on the first rib. The flap was fashioned by raising all the skin and fascia of the upper part of the arm, the pedicle of the flap being formed by the skin of the armpit and by the posterior axillary fold. The flap thus depended for its nutrition upon posterior cervical and dorsal vessels. The tumour was removed with the scapula, to which it was intimately attached, by shelling out. This exposed the internal jugular vein, the dome of the pleura, which bulged in the root of the neck internal to the scalenus owing to the atrophy of the clavicular portion of the sterno-mastoid after the excision of the clavicle. The main floor of the wound was formed by the sterno-mastoid, scaleni, the cut ends of the scapular muscles, and the upper two ribs. The skin flap from the arm covered in the wound and healing took place well as far as it was concerned; but the skin which had covered the spine of the scapula and acromion, naturally thin, had been in part undermined by the tumour, and this skin slowly became gangrenous. *Pari passu*, however, with the removal of the slough the muscles in the base of the flap atrophied, hence there was enough to make good the loss of skin at the upper and back part of the neck. The intracystic material proved to be a lympho-sarcoma. As shown in the microscopical specimens and drawings the contents of the cystic lympho-sarcoma, cystic from the first, with only a small amount of intracystic material, was excessively rare. It was difficult to understand how the growth could have been otherwise treated even at an early stage; if the skin could have been supplied by transplantation the involvement of the large vessels of the neck in the growth would have led to their ligature, and so probably to gangrene of the arm, had removal of the tumour only been attempted. The patient was about to return to New Zealand and the prognosis appeared to be quite favourable.

Dr. WALLIS ORD related a case of Complete Unilateral Arrest of Development with Arcus Senilis and without Hemiplegia in a girl aged twelve years. There was nothing in the history of the case that suggested any cause for this condition, except that the mother had suffered during her pregnancy from extreme mental anxiety due to nursing an elder child who died from hydrocephalus. The whole of the right side of the body below the level of the eyebrows was distinctly smaller than the left, bones and soft structures being alike affected. Above that level the conditions were reversed. There was no paralysis, rigidity, or contraction; ordinary sensation and faradaic sensibility were unimpaired, and the child's intellect was good. In the right eye there was a thin, sharply defined arcus above and below, and there was also considerable myopic astigmatism. Reference was made to a very similar case published by Dr. J. S. Bury, with very marked hemiatrophy of the tongue. The pathology of the case seemed to be obscure, but Dr. Ord suggested that it was an extremely mild form of the condition known as

[2] The Transactions of the American Surgical Association, 1893.

infantile spastic hemiplegia.—Dr. J. TAYLOR said that the patellar reflex was usually more active on the hemiplegic side if there was an intracranial lesion of a definite character. He regarded the case rather as a general defect of development of the nervous system.—Dr. WALLIS ORD, in reply, said that he looked upon the case as one of the class of spastic hemiplegia though no actual spasm was present.

OBSTETRICAL SOCIETY OF LONDON.

President's Address.—The Disintegration of Organic Tissue by High Tension Currents.—Exhibition of Specimens.

A MEETING of this society was held on March 6th, Dr. G. E. HERMAN being in the chair.

Dr. F. H. CHAMPNEYS, in his presidential address, made a spirited defence of the action of the society in granting certificates to midwives after examination. He argued that the society only endeavoured to protect their poorer countrywomen from the risks incidental to the employment of ignorant and irresponsible midwives, and that this troublesome and thankless task had been undertaken by them solely in consequence of the apparent non-existence of any authority competent for the duty. He pointed out that the usurpation of medical functions by the women who possessed their certificate could easily be repressed by reporting the facts to the society, as the offenders would be deprived of their certificates in accordance with the undertaking signed by each of them. He said that if the General Medical Council, before formally condemning the work of the society, had explained that the form of the certificate was open to objection the necessary steps would have been taken for its modification and amendment.

Dr. WATT BLACK proposed that the President be requested to allow his address to be printed in the Transactions of the society.

Dr. HERMAN seconded this, and it was carried with acclamation.

Dr. GRIFFITH proposed that a number of copies be printed, so that the address might be circulated among the Fellows of the society, and, at an appropriate date, among members of the General Medical Council and members of Parliament. (The address dealt with the subject of Midwives and their Relations to the Public and the Medical Profession.) This was seconded by Dr. POTTER, and carried.

Dr. J. INGLIS PARSONS read a paper on the Disintegration of Organic Tissue by High Tension Currents. He said that these investigations were undertaken to ascertain the capabilities of electricity as a destructive agent in the treatment of malignant disease. He had found from former investigations that the constant current was only effective at the poles for this purpose even with powerful currents. By using powerful interrupted voltaic currents a much greater area was injured, apparently by the force of the impact. He had some success with this method, but the results varied, some cases being more resistant than others. If the strength of the voltaic current was raised to meet this too much heat and caustic action were developed. It became necessary to investigate further. Having noticed the disruptive effects produced by currents of high electro-motive force, it was decided to have a transformer made to a special design. By this means quantity was turned into pressure, heat and caustic action were reduced to insignificance, while the destructive action was enormously increased. The transformer was capable of working up to 150 000 volts, and could be graduated from zero to the pressure required within certain limits. The resistance of the transformer was kept low, so that as large a proportion of energy as possible might be expended on the organic tissue when in short circuit. The primary coil was supplied by six accumulators. A manual rheotome was used so that the operator had perfect control over his instrument. Freshly killed beef was chosen as the best organic tissue upon which to try the discharges, because its structure would easily show any alterations that might take place, and it could be obtained in sufficient mass to allow the current to diffuse. Great difficulty was experienced in cutting sections from the beef after the current had passed through it. Even when frozen or mounted in paraffin it crumbled away into débris. By lowering the pressure in the transformer some sections were obtained and the muscular fibres were found to be broken up throughout the path of the current. (This was well illustrated by magic lantern slides and micro-photographs.) The destruction was found to extend throughout the path of the current, and was not confined to the poles like the constant current. The sections showed no evidence of heat or caustic action. Some experiments were then tried with an air gap in the circuit, instead of connecting the beef directly to the transformer. The destruction was nothing like so great, probably on account of the high resistance of the air gap. The diffusion of the current was then worked out as nearly as possible by cutting sections from different parts of a thick piece of beef after the passage of the electricity. The area broken up was found to correspond very nearly to the shape of an elliptic spindle. When the poles were not always placed at the same distance apart it was necessary to know the proportion between solid elliptic spindles of different sizes. With the poles six inches apart the solid contents were twenty-seven times greater than at two inches, consequently a corresponding increase or decrease must be made in the pressure of the current or the number of interruptions according as the needle points were moved further apart or brought nearer together. Finally, a Leyden jar acting as a condenser was then introduced into the circuit. The character of the discharge was altered. It took place with far greater rapidity. The maximum pressure was lowered to about 20,000 volts, with a corresponding increase in quantity. The sections taken showed an utter destruction of the beef. Apparently very little diffusion occurred; the discharge made only a narrow lane from one pole to the other. Dr. Parsons gave some demonstrations illustrating the paper.

Dr. LEWIS JONES said that he had made similar experiments on the disintegration of tissue by means of high tension discharges, using a transformer. He was astonished that Dr. Parsons should speak of the destruction of tissue as being produced by the "force of impact," such an expression being vague and meaningless. The destruction of the flesh was due simply to the heat produced by the discharge; indeed, there was no other possible way in which the electrical energy could expend itself on such a conductor as a piece of flesh. In his (Dr. Lewis Jones's) experiments the piece of meat quickly became heated, and if the operation was continued it soon emitted steam and smoke, and finally flame. To say that there was no heat because a thin platinum wire was not heated by the coil discharge was most misleading. Of course, under the conditions of the experiment shown the platinum wire could not possibly have been heated appreciably. The destruction of tissue was much greater round the poles than in the interpolar area, and this point should have been mentioned more clearly by Dr. Parsons.

Dr. HORROCKS said that if it could be shown that living cells, either normal or pathogenic, could be broken up by an electric current, then it was conceivable that this method had a future before it. It had long been known that a simple fracture of a bone united aseptically. Similarly, if one could break up the tissue of, say, a tumour or an inflammatory mass by electrical currents one might succeed in setting up changes which would result in the absorption of the tumour or the exudation. He (Dr. Horrocks) drew attention to the kind of current employed—namely, the faradaic or induced. He could not quite understand how Dr. Parsons had arrived at the conclusion that none of the effects produced were the result of heat. Certainly the sparks shown that evening were very much like lightning flashes, and it was a well-known observation that in death from lightning there was evidence of the effect of heat, especially at the entrance and exit of the electrical fluid.

Dr. ROUTH said that Dr. Parsons had shown how completely the interrupted current could destroy tissues. He asked whether Dr. Parsons was acquainted with the experiments of Sir Benjamin Ward Richardson, which showed that simple non-electrical vibrations changed and reconstructed tissues in various ways. The experiments alluded to were performed on blood taken from the finger, and the products after the shock examined under the microscope. It should not be forgotten that the action of the interrupted current might be influenced in some instances by a neighbouring vibratory wave, and the results be modified.

Dr. PARSONS replied.

The following specimens were exhibited:—

Dr. LEWERS: Tubal Mole removed by Abdominal Section.

Dr. ROBERT WISE: A Couch Table.

Dr. MACNAUGHTON JONES: Uterine Polyptome, Vaginal and Uterine Insufflator, and Vaginal and Uterine Stem.

LEEDS AND WEST RIDING MEDICO-CHIRURGICAL SOCIETY.

Ruptured Tubal Gestation.—Enteric Fever complicated by Phlebitis and Pleuro-pneumonia.—Traumatic Gluteal Aneurysm.—Exhibition of Cases and Specimens.

A MEETING of this society was held on March 1st, Dr. J. E. EDDISON being in the chair.

Dr. HELLIER showed Marchand's Lacto-butyrometer. This is a quick and simple means of estimating the amount of fat in breast milk. The process consists essentially in dissolving the fat with ether and then throwing it out by admixture with absolute alcohol. The specific gravity of the milk is also taken. In good milk the specific gravity and fat percentage are correspondingly high, but when the specific gravity is high and the fat percentage low infants will not thrive well upon it, and the milk must be looked upon as abnormal.

Mr. W. A. STOTT read a paper on a case of Ruptured Tubal Gestation. Special mention was made of an anomalous sign which was elicited about twenty-four hours after the rupture and which gave rise to an appearance of perforated gastric or duodenal ulcer. The patient was thirteen weeks pregnant, and her symptoms of severe peritoneal hæmorrhage followed immediately an act of micturition. When first seen, nine hours after the onset, everything pointed to ruptured tube, although retroversion and fixation of the uterus, together with great thickness and rigidity of the abdominal walls, prevented a satisfactory bimanual examination. Fifteen hours later it was found that the liver dulness had vanished. In addition all pain had become localised over the stomach and was rendered intense by anything swallowed. Pain had entirely left the pelvic region, and slight abdominal distension had come on. So soon as permission could be obtained the abdomen was opened, twenty-seven hours after onset. The plan intended was to make two incisions: (*a*) a median hypogastric one, to allow of free washing out from above and then to be used for draining, and (*b*) an epigastric incision to deal with the stomach lesion. The first-mentioned incision was made, and exploration proved the absence of free gas or food in the peritoneum and the correctness of the original diagnosis. The left Fallopian tube and nearly three pints of blood were removed. The middle portion of the tube was distended and showed a large T-shaped rent. The patient made a rapid and perfect recovery.—The paper was discussed by Dr. Hellier, Dr. Kilner Clarke, Dr. Churton, Mr. Littlewood, Mr. Croft, Dr. Eddison, and Dr. Griffith.

Dr. CHURTON read notes of a case of Enteric Fever complicated by Phlebitis and Pleuro-pneumonia, and followed by Tonsillitis and Peripheral Neuritis. A stout but not very strong girl aged twenty-four was ailing on Sept. 20th, 1894, but continued at work for eight days. On Sept. 29th the temperature was 105° F., pulse 108, respiration 32; a dusky flush on face; diarrhœa; the colon, dull and apparently full, was washed out with warm water. For a week the temperature varied from 103° to 105°.—Oct. 6th: Swelling of right leg; tenderness over popliteal vein. Dulness over lower lobe of right lung; pulse 120, respiration 44; motions still rather frequent and offensive; colon resonant. Salol, ten grains, every six hours.—10th: No diarrhœa; salol omitted; after this date there was constipation.—15th: Signs of pleurisy and pneumonia in left lower lobe.—22nd: Friction sound over right lower lobe, with pain relieved by dry cupping and small doses of morphia. The temperature was normal on Nov. 1st. A week later strict milk diet was stopped.—13th: Sore-throat after chill from an open window; pyrexia for four days.—19th: Pain in right leg, gradually increasing for a week, then "pins and needles" in the toes, chiefly in fourth and fifth; numbness and aching in leg and ankle; nerves tender. The neuritis lasted six weeks. The patient was very sensitive to cold and attributed each additional disorder to a definite chill—turning upon cold sheet and mackintosh after being washed; draught from a window; cooling of room in early morning for stove-cleaning &c.; application of methylated spirit to the back. No antipyrin or cold sponging or baths were used. Quinine, ten grains, was given once; calomel, half a grain, several times. The intestines were cleared as far as possible of "culture media" and kept clear. The case looked serious from the first, and complications began early. The source of the fever could not be found. A nurse attending this patient, after slight malaise for a week or two, was decidedly ailing on Nov. 28th; went off duty on Dec. 2nd; next day had temperature 105°, with delirium and signs of pleuro-pneumonia in right lower lobe; rose spots in second week; troublesome constipation possibly the cause of a relapse from Dec. 19th to 31st, with renewal of pleurisy; convalescent on Jan. 27th, 1895. She had tepid sponging once, but afterwards declined it when offered.—The paper was discussed by Dr. Eddison, Dr. Solly, Dr. Kilner Clarke, Dr. Chadwick, Mr. Brown, and Mr. Hartley.

Mr. W. H. BROWN read notes of a case of Traumatic Gluteal Aneurysm treated by the old operation of turning out the clots and sac and ligaturing both openings of the vessel. He drew attention to the small number of recorded cases, to the advantages of a very free incision, and to the absolute necessity of a trustworthy surface marking in this case, that of Lizar's having been used.

Mr. ATKINSON related the case of a corpulent middle-aged man admitted under him some years ago with a large Hæmatoma of the Buttock caused by a blow. Three weeks' rest in bed with evaporating lotions reduced the swelling so much that, at his request, he was allowed to go home, but returned next day with a tumour larger than ever. Rupture of the gluteal artery being diagnosed, a long incision was made over the swelling, the clots turned out, and the torn vessel found; this was with difficulty ligatured.—Dr. EDDISON referred to Syme's classical case of gluteal aneurysm. He was present at the operation.

The following cases, pathological specimens, &c., were shown:—

Dr. GORDON SHARP: Upper Jaw from a case of Chronic Glanders.

Dr. CHURTON: (1) Case of hemiplegia from Thrombosis of Middle Cerebral Artery, subsequent Neuritis in Cervical and Brachial Nerves; (2) Patient with Two Abdominal Tumours—(*a*) Movable Right Kidney and (*b*) Pyloric Cicatricial Growth.

Mr. W. H. BROWN: (1) Case of Supra-pubic Lithotomy in Adult in which Bladder was sutured; (2) Calculus removed from the Urethra behind a Stricture.

Mr. HARTLEY: Congenital Dislocation of Radius (patient, cast, and photographs).

Mr. LEE WELLS and Dr. T. WARDROP GRIFFITH: Muscular Atrophy after Injury. (The patient has a symmetrical abnormality of the muscles of the arm.)

Mr. LITTLEWOOD: (1) Epithelioma arising in Sebaceous Cyst; (2) Destructive Arthritis of Ankle-joint removed from a Woman aged fifty-six; (3) Hydrocele of Cord removed from a boy.

Dr. T. WARDROP GRIFFITH: Case of Raynaud's Disease affecting the Ears.

Mr. MAYO ROBSON: Case of Pyloroplasty.

MEDICO-PSYCHOLOGICAL ASSOCIATION.

A Review of the last Twenty Years at the Worcester County and City Lunatic Asylum.—Atrophy and Sclerosis of the Cerebellum.—Influenza as a Factor in the Increase of Insanity in Ireland.

A GENERAL MEETING of this association was held at the Powick Asylum, near Worcester, on Feb. 21st, under the presidency of Mr. CONOLLY NORMAN.

The proceedings commenced with an address delivered by Dr. COOKE, medical superintendent, entitled "A Review of the last Twenty Years at the Worcester County and City Lunatic Asylum, with some conclusions derived therefrom." After briefly describing the asylum in the year 1875, Dr. Cooke indicated the additions and alterations that had been made in the accommodation provided for the patients, and the improvements that had taken place in the sanitary and heating arrangements since that date. During the period under review there had been an increase in the number of the patients, due partly to an addition to the population, partly to a decreasing death-rate, and partly to the fact that a number of imbeciles formerly kept in the workhouse are now sent to the asylum. Everything possible had been done to ameliorate the condition of the patients and to promote their cure, and by more systematic training and in various other ways every effort had been made to render the nurses and attendants fully capable of discharging the important duties imposed upon them.—A discussion followed, which was entered into by the President, Dr. Nicolson, Dr. White, Dr. Spence,

Mr. Whitcombe, Dr. Fletcher Beach, Mr. Brinton (member of committee), and others.

Dr. BOND read a paper on Atrophy and Sclerosis of the Cerebellum. An account was given of the clinical history and post-mortem appearances of a well-marked case occurring at the Banstead Asylum. The chief features of the case were the long duration (marked ataxia had been noticed for fifty-three years—i.e., since the age of seven), the practically total destruction of the organ by conversion into fibrous tissue, and the fact that during life very pronounced mental deficiency had existed, at least from the age of seven years, though at death but little cerebral atrophy was found. Allusion was made to several other published cases of cerebellar disease, and by a comparison of them certain deductions were attempted. The microscopical appearances were illustrated by a photo-micrograph.—Dr. Bond's paper was discussed by the President, Dr. Cowan, and Dr. Fletcher Beach.

The General Secretary then read for Mr. MCCLAUGHRY a paper entitled "Influenza as a Factor in the Increase of Insanity in Ireland." He first gave a history of influenza, in which he showed that it was known and written on as far back as the fourteenth century, and was first mentioned by Hippocrates. Passing on to the present day, he said we find that the etiology of the disease has for the past two years absorbed the attention of eminent medical men, and, according to the report of Drs. Parsons and Klein to the Local Government Board, there seems no doubt as to the influence of a bacillus which causes the disease. Mr. McClaughry had addressed a series of questions to the medical superintendents of the various asylums in Ireland, and he analysed and made remarks upon their replies. It seems that in forty-nine cases the apparent cause of insanity was influenza, and that the most common type of the former disease was melancholia. Although most of the medical superintendents did not believe that insanity was directly or indirectly due to the disease, he thought that, taking the aggregate number of cases admitted during one year into the twenty asylums from which he had received replies, influenza was as powerful a cause as tea drinking, tobacco smoking in youth, and ether drinking, all of which have been assigned as potent factors in the increase of insanity in Ireland.—A discussion followed in which the President, Dr. Cooke, Dr. Fletcher Beach, and Dr. Seymour Tuke took part.

MIDLAND MEDICAL SOCIETY.

Exhibition of Cases and Specimens.—Etiology of Tumours.

AN ordinary meeting of this society was held on March 6th, Mr. T. F. CHAVASSE, President, being in the chair.

The PRESIDENT showed a Uterine Myoma weighing nine pounds which he had removed by abdominal section from an unmarried woman aged thirty-five years. The history of growth extended back four years. Numerous adhesions existed, and the pedicle, which was broad, was treated extra-peritoneally by a wire constrictor. Recovery was uninterrupted.

Mr. GEORGE HEATON showed a boy aged twelve years with a large Valvular Growth growing from his left false cord and causing much inspiratory dyspnœa. In addition to the main growth there were several smaller ones growing from the mucous membrane on the inter-arytænoid space. The boy had suffered from frequently recurring attacks of croup, and a year previously had had tracheotomy performed for laryngeal obstruction, and wore a tube twelve days. Mr. Heaton proposed to remove the growths by laryngotomy, and gave his reasons for preferring this method.

Dr. FOXWELL exhibited a man with a New Growth originating in the Posterior Mediastinum, which had compressed the main bronchus of the right lung and also that supplying the lowest lobe. The superficial veins of the lower half of the thorax were dilated, especially on the left side (probably from pressure on the smaller azygos as it crosses the spine to join the larger). There was also a large mass of glands in the right supra-clavicular fossa. The first symptom of ill health was noticed at the end of November, 1894.—Dr. FOXWELL also showed a boy aged three with a large Liver of very dense consistence, which he considered to be Cirrhotic owing to alcohol, with which he had been regularly dosed by his parents.

Dr. MORRIS showed a Brain from a case of Cerebral Hæmorrhage. A large hæmorrhage in the left hemisphere had burst into the lateral ventricle and passed downwards into the medulla. The symptoms were apoplexy, slight rigidity of all the limbs with occasional unconscious movements, no strabismus, facial muscles equally inactive, inability to swallow, Cheyne-Stokes respiration, equally contracted pupils, polyuria, and glycosuria. The case was first diagnosed as diabetic coma, and subsequently as hæmorrhage into the pons or medulla.

Dr. LESLIE PHILLIPS showed three patients—(1) a case of Chronic Pemphigus of eight months' duration noteworthy from the very small size of the great majority of its bullæ; (2) a case of Phagedænic Ulceration of the Penis in course of repair after the free application of the Paquelin cautery; and (3) a man discharged from the army in India on account of Syphilis. One side of the nose had been lost nineteen months after the primary sore, and much destructive ulceration had attacked the lesions in other parts of the skin. Dr. Phillips directed attention to the occurrence in his practice at the present time of many cases of syphilis of a severe and intractable type.

Mr. CHRISTOPHER MARTIN showed a Sarcoma of the Ovary removed successfully from a woman.

Dr. O. J. KAUFFMANN then read a paper on the Etiology of Tumours.

MEDICO-CHIRURGICAL SOCIETY OF EDINBURGH.

Exhibition of Cases.—Treatment of Suppuration in certain Osseous Cavities.

THE eighth meeting of the seventy-fourth session of this society was held on March 6th, Mr. JOSEPH BELL, Vice-President, being in the chair.

Dr. A. L. GILLESPIE showed three patients: (1) a young man with Deformity of Both Hands, only the thumb and two fingers being present; (2) two sisters with Goitre and Rapid Pulse in whom marked improvement had taken place under the administration of bromide and iodide of strontium; and (3) a child with Persistence of the Anterior Fontanelle. Dr. Gillespie also gave an exhibition of Lip-reading in the Deaf and Dumb.

Dr. NORMAN WALKER showed a peculiar case of Eczema exhibiting a Linear Eruption, which had commenced on the wrist and extended up the arm and down the chest. He also showed a case of Lichen Spinulosus.

Dr. WILLIAM RUSSELL showed: (1) a Malignant Ovarian Tumour; (2) the Lungs from two fatal cases of Influenzal Pneumonia; (3) an Aneurysm of the Abdominal Aorta; and (4) an Impacted Gall-stone, the gall-bladder having been tacked to the hepatic flexure of the colon and the abdominal wall, and so rendered functionless.

Dr. LEITH showed: (1) a Pancreas with Abscesses in the head, tail, and body; there were impacted gall-stones in the bile-duct; and (2) photographs of an Aneurysm opening into the Superior Vena Cava.

Dr. MCBRIDE read a paper on some questions with regard to the Diagnosis, Prognosis, and Treatment of Suppuration in certain Osseous Cavities. He divided his subject into—(1) suppuration of the middle ear; and (2) suppuration of the nasal accessory cavities. 1. In suppurative ear disease, more particularly when chronic, the great desideratum was free drainage. He first sketched the various operative methods for gaining access to the middle-ear cavities. Recent cases of middle-ear suppuration where no great amount of destruction of the drum had taken place were usually curable with Schwartze's operation alone. It was a question, therefore, whether in subacute cases threatening to become chronic the mastoid antrum should not be opened more frequently than was at present customary. In chronic cases it was rare to get a cure. It was recommended by surgeons to drain through the mastoid in cases of chronic suppuration which had resisted treatment for a year. His own experience had made him an opponent to this view. 2. Suppuration of the nasal accessory cavities. If in a patient we had arrived at the conclusion that the antrum, anterior ethmoidal cells or frontal sinus were at fault it was usual to suspect the antrum first, and by various methods—e.g., posture, transillumination, introduction of a tube into the natural opening, and exploration—we could determine whether or not it contained pus. If it did not we were driven to the conclusion that either the anterior ethmoidal cells or the frontal sinus gave origin to the discharge. He thought it doubtful if even the most skilled rhinologist in

that case could do more than express an opinion and explore. Having sketched the treatment of such a case he dwelt on the difficulty of diagnosing suppuration of the frontal cavity. In empyema of the posterior ethmoidal cells and sphenoidal sinus diagnosis became still more difficult. In treatment of empyema of the antrum a great deal depended on the duration of the affection. Opinion was generally in favour of making an artificial opening. In recent cases it was best to open through the socket of a tooth. In chronic cases, where drainage was required for months or years, opening through the alveolus was best. He deprecated opening through the meatus as the orifice was difficult to maintain. In cases which resisted all other efforts Jansen's operation might be employed. In view of the extreme obstinacy of these antral cases if allowed to remain for years, he thought they ought to be opened early, when the extraction of a tooth and the introduction of a vulcanite plug with regular washing would effect a speedy cure.—Mr. JOSEPH BELL quite agreed that they should not be in too great a hurry to open the antrum in chronic middle-ear suppuration, especially in children. With reference to the different methods of operation, he thought the great thing was to get into the antrum and then work one's way upwards and backwards, cutting away all the softened bone and not removing more healthy bone than was necessary.—Dr. MACKENZIE JOHNSTON thought cases of middle-ear suppuration would undoubtedly benefit by opening, but he thought patients would not submit to the operation till the surgeon was prepared to say that it was necessary. At present they were not in a position to say whether a case should or should not be operated upon simply because the discharge did not stop in twelve months. When a case lasted longer were they to operate or await symptoms? He would rather open at the earlier stage if one could get the sanction of the patient and the practitioner.—After some remarks by Mr. WALLACE, Dr. MCBRIDE replied.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF OBSTETRICS.

Intra-ligamentous Cyst.—Ovary and Tube removed for Pyosalpinx.—Leucorrhœa: its Causes, Varieties, and Treatment.

A MEETING of this Section was held on March 1st, Dr. R. D. PUREFOY, President, being in the chair.

Dr. SCOTT said: "The specimen of Intra-ligamentous Cyst described by Dr. Macan at a former meeting was placed in my hands by the Reference Committee for examination. It consists of the greater portion of the uterus and the appendages of both sides. In the cervical portion of the uterus I found the cavity to be one inch deep, while the body contained three myomata about one and a quarter to one and a half inches in diameter and some about half an inch in diameter or less. The total uterine mass measured about four inches antero-posteriorly and about two inches laterally. The Fallopian tube on the left side measured about three inches, and with the ovary was apparently normal. On the right side the broad ligament was distended by a large sac measuring about four and a half inches antero-posteriorly and about six inches laterally. The Fallopian tube was stretched by the cyst until it measured eight inches, and was so very closely incorporated with the cyst wall at its uterine end that microscopical sections had to be made to trace its position. The right ovary was rather smaller and more elongated than the left. The ovary and Fallopian tube lay at opposite sides of the sac. The position of the sac in the broad ligament, filling up the space between, and attached to both the ovary and Fallopian tube and its epithelial lining, would point to an origin from the remains of that part of the Wolffian body known as the parovarium, or from the small portion of the Wolffian duct which is sometimes attached to the tubular portion of the parovarium."

Dr. F. W. KIDD exhibited an Ovary and Tube removed for Pyosalpinx. One week after operation the stitches were removed, and there was perfect union of the abdominal incision.

Dr. MORE MADDEN said that the subject of Leucorrhœa is deserving of fuller consideration than is generally accorded to it. The term should be restricted to such non-hæmorrhagic or mucoid discharges from any portion of the genital lining membrane as contain morphological or other elements foreign to healthy mucus, and are of pathological significance. Vulvar leucorrhœa is most frequently brought under notice in pædiatric practice, and more usually is of constitutional or strumous origin, although it not infrequently arises from topical causes, whether catarrhal, or simple inflammatory, traumatic, or specifically infective, such as gonorrhœa. Vaginal leucorrhœa may be caused either by any of the local exciting causes of genital hyperæmia or by any abnormal constitutional condition by which the tonicity of the vaginal vessels is so impaired as to give rise to non-hæmorrhagic exudation therefrom. The most common of the former causes are catarrhal and simple inflammatory vaginitis; and next in frequency is gonorrhœal infection. The distinction between these is generally a matter of difficulty and is often an impossibility in actual practice; in many instances the physician must rely more on the history, symptoms, and probabilities of the case than on any differentiation from the readily ascertainable presence or absence of gonococci in the discharge. Whether specifically infective or not, however, the treatment of these cases is practically identical. In either instance the primary object should be to secure as far as possible the asepsis of the affected parts by the free use of warm antiseptic injections, such as lysol or boric acid (1 in 25), or corrosive sublimate (1 in 2000), so as to sterilise and cleanse the vaginal surface from the discharge which, even if not specifically infective, when allowed to accumulate or decompose must act as a direct source of irritation, as well as a possible nidus for pathogenic micro-organisms by which the entire genital tract may be infected. In the second place, the same indications may be carried out most effectually immediately after each douching by vaginal insufflations of loretin, salol, or boric acid powder, or so-called "dry treatment." For the relief of pruritus of the pudendum Dr. Madden suggested the application of the methylene blue lotion, which he has recently recommended as one of the best of all local analgesics in pruritic affections generally. Cervical leucorrhœa is very frequently of special importance in connexion with the causation of obstructive dysmenorrhœa and sterility, in which cases the cervical canal may be so sealed by an abnormally viscid and hyper-alkaline exudation from the Nabothian follicles and cervical endometrium as to interpose mechanical obstacles to either menstruation or conception. In the local treatment of such cases chief reliance should be placed on the free use of the cervical curette, before which Dr. Madden recommends the thorough dilatation of the canal by means of his rapid dilator, and immediately after curetting he applies iodised phenol or salol bougies to the affected surfaces.—Dr. TWEEDY thought that leucorrhœa was a symptom of almost every disease of gynæcology. He wanted to know some diagnostic difference between simple vaginitis and that due to gonorrhœa. For some time he had been using the microscope to distinguish between them, but was sorry to see that Dr. Madden threw some doubt on the bacteriological examination. He placed a little of the pus on a slide, pressed out with a cover-glass, removed the latter, and applied an aqueous solution of methyl violet. In a few minutes he washed it with water and replaced the cover-glass. The whole thing did not take more than two minutes.—Dr. ALFRED SCOTT said that if the pus was stained with methyl violet it was almost impossible to miss the micrococci. Unfortunately, there were about eight micrococci which belonged to the same class. The most convenient check was to stain by Gram's method. If they stain by this method they are not gonococci. Cultivation was much more difficult, and took from one to two months.—Dr. MORE MADDEN, replying, said that he was glad his paper had given rise to so much discussion, but doubted the ready diagnosis of gonorrhœal from ordinary leucorrhœa by the immediate recognition of the gonococcus.

YORK COUNTY HOSPITAL.—The annual meeting of the York County Hospital was held on March 12th. The Dean of York presided, and the 154th annual report was presented. The income of the hospital has suffered considerably through the depression in trade, but an increase of £31 in the workmen's collections was commented on with satisfaction. The Earl of Feversham contributed £250, which was employed in laying out the grounds in the rear of the hospital, where a very pleasing ornamental effect has been produced by planting evergreens and forming grass plots.

Reviews and Notices of Books.

Physiologie. Travaux du Laboratoire de M. CHARLES RICHET. Tome iii. Avec 25 figures dans le texte. Paris: Félix Alcan. 1895. Pp. 577.

THIS volume embraces, amongst numerous others, the following subjects: 1. Chloralosis. 2. Serotherapeutics. 3. Tuberculosis. 4. Defences of the Organism. Chloralose is the body which results from the action of anhydrous chloral on glycose. It is crystallisable, being soluble in boiling water from which it is deposited in crystals on cooling. It has a disagreeable taste. In dogs, in doses of about three grains per pound weight of the animal, it has little action for about three-quarters of an hour. The muscles then appear to become rigid, with fibrillar contractions, and the movements become slow; intelligence is preserved, but there is somnolence; the animal lies down and the eyelids tend to close; there is at the same time an increase of reflex excitability, the animal trembling at the slightest sound. The movements of the heart and respiration are unaffected. At the expiration of an hour and a half sleep is profound, but the excitability is greatly augmented. The slightest touch causes almost a tetanic convulsion. The sleep, therefore, differs from that produced by morphia because the animal does not dream, and from that of chloral because the spinal cord is wide awake when the brain slumbers. It has been employed by M. Ch. Féré in cases of epilepsy, hysteria, and chorea. Another paper, by MM. J. Héricourt and Charles Richet, deals with Transfusion of the Blood of the Dog into the Peritoneal Cavity of the Rabbit. It is very remarkable that the injection of twelve cubic centimetres of the blood into the veins of a rabbit will cause its death in a few minutes, whilst it will readily bear the injection of 120 cubic centimetres into the peritoneum. After such an injection the animal crouches on its belly, and usually soon passes a large quantity of limpid urine. The temperature falls, and in the course of a week's time there is a notable loss of weight. An important point was also noticed—namely, that after the injection the virulence of the staphylococcus septicus was greatly diminished when the animal was infected with it, the blood of the dog absorbed by the rabbit appearing to possess the power of resisting the pathological influence of the staphylococcus. Guinea-pigs are more easily poisoned by the transfusion of dog's blood than rabbits. The introduction of twenty-five grammes of dog's blood per kilogramme was almost certainly fatal. The blood of the duck is even more poisonous than that of the dog; in the case of the rabbit seven grammes appear to be a toxic dose. A single gramme of the blood of the eel will kill a vigorous rabbit in the course of a few minutes, but a rabbit survived after the injection of five grammes of the blood of a carp. The authors of the paper have satisfied themselves that the injection of the blood of the dog into the rabbit, whether into the blood or into the peritoneum, retards the supervention of tuberculosis under conditions in which it would otherwise take place.

M. Richet has an interesting article on Functions of Defence in Man and Animals, dealing, amongst other things, with the power warm-blooded animals have of resisting exposure to cold. In the dog exposure to a cold of − 91°C. for half an hour was accompanied by a rise in the rectal temperature, and it resisted the effects of that degree of cold for two hours. Shivering on exposure to cold may be contrasted, he remarks, with the beneficial effects of sweating on exposure to heat. He points out the advantages of the sentiment of fear which is inspired by so many animals and circumstances, and which saves us often from ourselves. The same may be said of the feeling of vertigo. M. Richet maintains that were it not for the sensation of vertigo falls and serious accident would be of much more frequent occurrence. Pain, too, or the anticipation of it, has its protective influence. Under pain the respiration quickens, the heart beats more rapidly, the arterial blood pressure rises, the glands secrete more abundantly—all conditions that tend to the reinforcement of the biological activity of the organism. As Brown-Séquard would have said, there is dynamogeny of the whole body. Finally, he considers the remarkable means of defence we possess in our leucocytes and phagocytes against the multiplication of microbes in our system. The volume contains several other valuable articles.

LIBRARY TABLE.

Elements of Surgical Pathology. By AUGUSTUS J. PEPPER, M.S., M.B. Fourth Edition. London: Cassell and Co. 1894.—In a notice of the first edition of this book we expressed the opinion that it supplied a real want and supplied it well; and though in the twelve years that have elapsed since then great advances have been made in surgical pathology, we cannot but acknowledge that the work before us is still fully worthy of being recommended to the student as a trustworthy guide to the subject of which it treats. The present issue has been brought up to date, the original text having been entirely rewritten, and several new subjects being treated which were unnoticed in former editions. The book is remarkably free from mistakes of all kinds, but occasionally we find a sentence in which an alteration is desirable. The illustrations are numerous and good. Altogether the book is a worthy member of the excellent series of student's manuals to which it belongs.

Atlas of the Human Brain and the Course of the Nerve Fibres. By EDWARD FLATAU. Translated by WM. NATHAN and JOHN H. CARSLAW. Berlin: J. Karger. Glasgow: F. Bauermeister. 1894.—It is a difficult thing adequately to appreciate such a work as this. The result in the actual number of plates of what must have been a very great expenditure of time and care and industry may seem to be small, yet in this atlas we have presented to us all the important aspects of the brain in a sufficient series of the most beautifully executed plates. If anything can be substituted for the actual brain in the course of anatomical study, we should imagine that such plates as these could, and in one particular this atlas is peculiarly valuable—viz., the diagram which is given of the course of the nerves and tracts in the spinal cord. A short but sufficient explanatory text is furnished, and we congratulate the author on the completion of a work upon which he must have spent much pleasant labour, and the translators on the enterprise which has led them to render the atlas available to English students.

Diphtheria and its Successful Treatment. By BROWNLOW R. MARTIN, M.B. Dub., L.R.C.S. Irel. Second Edition. London: Baillière, Tindall, and Cox. 1895.—This little work of sixty-four pages is essentially an earnest recommendation of sulphite of magnesium as a reliable agent in the treatment of diphtheria. This sparingly soluble salt is to be applied locally by free insufflation, so that "about the sixteenth part of an inch deep of powder should be dusted all over the surface of the mucous membrane wherever the diffuse redness extends." At the same time, tabloids containing each five grains of the salt are to be sucked constantly, and perchloride of iron is to be administered, either alone or in conjunction with chlorate of potassium. The author records numerous cases, both in his own practice and in that of others, in which this treatment has been attended with success.

The Phonographic Record of Clinical Teaching and Medical Science. No. 4. London: Sir I. Pitman and Sons.—In accordance with an announcement already made the scope

of this publication has been widened, and the current number, in addition to two short clinical lectures, contains articles on the Use of Digitalis, by Dr. James Little, and on the Quenching of Thirst by the Use of Enemata, by Mr. C. W. Cathcart, F.R.C.S. The clinical lectures, which deal with the Backward Displacement of the Gravid Uterus, and with Chancres in Women, are respectively by Dr. Thomas Wilson and Prof. H. R. Spencer. We are pleased to note that the "Evercirculators," to which we referred last month, have commenced, and they should prove of great educational value to the members of the Society of Medical Phonographers, of which the "Record" is the official organ.

Respiration in Singing. By D^r. JOAL. Translated by R. NORRIS WOLFENDEN, M.D. London: F. J. Rebman. 1895.—This little work, although intended primarily for singers, contains many observations on respiration which are of interest both to the physiologist and the physician. The object of the book is to advocate the importance of costal respiration and its superiority over purely diaphragmatic respiration for ordinary purposes, and especially for the production of voice by singers. Dr. Joal makes out a strong case, but both the body of the work and the translator's preface are disfigured by the introduction of personal controversy.

Analytical Records
FROM
THE LANCET LABORATORY.

WYETH'S WINE OF TAR.

(JOHN WYETH AND BROTHER, PHILADELPHIA, AND W. F. HORTON, 30, SNOW-HILL, E.C.)

THE method adopted for the manufacture of this preparation is interesting. A solution containing malt and hops and a small quantity of honey is first made, which is then allowed to ferment for from four to six weeks at between 98° and 100° F. in the presence of tar specially selected for the purpose. When alcohol has been produced to the extent of between 7 and 8 per cent. the liquid is filtered and bottled. It is a dark-brown, alcoholic solution, possessing a not unpleasant smell and taste referable to tar constituents. It is said to be useful in bronchial and gastric catarrh, moderating the cough and promoting expectoration. Wyeth's wine of tar is certainly an advance on ordinary tar-water, which is unreliable, because very variable in composition, while it would appear that by the adoption of fermentation and subsequent filtration in the course of its preparation the irritating and acrid principles commonly present in tar, and which are to be found in the ordinary aqueous extract, are excluded. In addition, it obviously possesses nutritive properties, since it is in part prepared on the same lines as beer.

VARIOUS COMPRESSED TABLETS.

(PARKE, DAVIS, & CO., DETROIT, MICHIGAN, AND 451, OXFORD-STREET, LONDON, W.)

A useful series of compressed drugs, based upon more or less novel formulæ, which are worthy the attention of the profession, has recently been submitted to us by these enterprising pharmacists. We have subjected most of them to careful analysis, and in nearly all cases we have succeeded in getting reactions in response to the presence—although in some cases quite minute—of the various medicaments contained in them. Thus the saline and chalybeate tonic tablets are of somewhat complex composition, but we obtained distinct evidence of each constituent. The formula (after Dr. Flint) is as follows: sodium chloride, 3 grains; potassium chloride, 3·2 grains; potassium sulphate, 1·10 grains; potassium carbonate, 1·20 grains; sodium carbonate, 3·5 grains; magnesium carbonate, 1·2 grains; calcium phosphate, 1·2 grains; iron reduced by hydrogen, 9·20 grains; and carbonate of iron, 1·20 grains. That the reduced iron was present as such was proved by the fact that the residue left undissolved by water evolved hydrogen on the addition of dilute sulphuric acid. Of other compressed tablets the following appear to be worthy of mention: trifolium comp. (alterative), containing the extracts of red clover, stillingia, xanthoxylum, lappa, phytolacca root, and iris; acetanilide comp., containing acetanilide in conjunction with camphor monobrom., and citrate of caffeine; ergotin comp., composed of ergotin (Bonjean), tinct. foxglove and quinine sulph.; compressed tablets (anodyne) composed of camphor ext. henbane, morph. acetate, and capsicum; cubeb tablets, containing besides powdered cubebs, sulphate of iron, copaiba, Venice turpentine, sandalwood oil, and oil of wintergreen; tablets of Dover's powder; compressed tablets (chlorodyne) consisting of morph. hydrochlor., ext. cannabis Indica, nitro-glycerine, ext. hyoscyamus, and oleoresin capsicum; aphrodisiac tablets, composed of ext. damiana, nux vomica, zinc phosphide, and cantharides; tablets containing equal amounts of the bromides of sodium, potassium, and ammonium; and lastly, tablets (damiana comp.) composed of ext. damiana, phosphorus, and ext. nux vomica. They all serve as excellent illustrations of progressive pharmacy.

AUSTRALIAN BRANDY.

(JOSHUA BR^S., MELBOURNE. LONDON OFFICE: 26, MARK-LANE, E.C.)

An analytical notice of this interesting and important colonial product appeared in THE LANCET of July 2nd, 1892, since which, however, we learn that it has been considerably improved; while in order to further guarantee its genuineness it is now being bottled in London under the personal supervision of the above firm. We have submitted a new sample to examination, with the result that, although we find a small diminution in the proportion of spirit, yet in every other respect its excellent quality is maintained. It is a pure product, possessing a blandness of flavour, and is well suited for medicinal purposes.

CASCARINE (LEPRINCE) LAXATIVE PILLS.

(MAURICE LEPRINCE, PARIS; LONDON: F. NEWBERY & SONS, 1 & 3, KING EDWARD-STREET, NEWGATE-STREET, E.C.)

The extract of "cascara sagrada" is a well-known valuable addition to modern aperients, but as ordinarily prepared it contains certain constituents which, if not irritating or giving rise to other objectionable results, are at least inert. In the above preparation M. Leprince claims to have separated a distinctly definite chemical product—cascarine—the administration of which secures the beneficial action of the "sacred bark," while it excludes the irritating effects which with some individuals are known to follow the use of this drug. The pills are neatly coated and contain a brown, brittle mass which dissolves completely in water. We find that the claims advanced in regard to their uniformity and ease of action are not without foundation.

MARROL.

(THE LIQUOR CARNIS CO., 28A, FARRINGDON-STREET, E.C., AND ASTON CLINTON, BUCKS.)

This is one of those valuable and interesting preparations belonging to a useful series of foods made by the Liquor Carnis Co., in which the ordinary physical conditions of fat are modified by the peculiar action of the enzyme of malt, by which it is held ready for immediate absorption and appropriation. Thus under the microscope the fa in Marrol, consisting of the yellow marrow of ox bone, appears to exist in true solution, but when a drop of water is added, immediately myriads of tiny fat globules are seen to separate. At the same time, the digestive activity of the diastase is not impaired, since an aqueous solution of Marrol rapidly converts starch into soluble carbohydrates.

According to our analysis, the composition of Marrol may be thus represented: moisture (loss at 100° C.), 18·10 per cent.; mineral matter, 2·07 per cent.; fat, 10·43 per cent.; proteids, 2·31 per cent.; malt extractives, sugars, &c., 67·09 per cent. We may regard it broadly, therefore, as consisting of one part of marrow fat held in the state of emulsion by nine parts of pure active malt extract. Both, of course, introduce valuable proteids and mineral constituents into the compound, the former contributing compounds of phosphorus and iron (from the hæmoglobin and the fat of the marrow), and the latter the extracted phosphates of malt. Marrol is, therefore, of peculiar and undoubted value, therapeutically as well as dietetically. An important feature is its attractive flavour, which is partly referable to the delicate bitter of the hop contained in the malt extract.

"FOOTBALL" OATS.

(ROBERTS, SIMPSON & CO., 46, STANLEY-STREET, LIVERPOOL.)

This preparation consists of the berries of the oat rolled and flattened into wafers, by which, doubtless, it is rendered dietetically more acceptable. Prepared in the manner directed, a porridge of rich oaten flavour is obtained. This product is, of course, of the same high nutritive value as the oat itself, the proportion of nitrogenous matters and phosphatic constituents in which is well known to exceed all other cereals.

PILL FERRUGINOUS WITH CASCARA SAGRADA AND NUX VOMICA.

(W. H. SCHIEFFELIN & CO., NEW YORK. POTTER & SACKER, 80, FENCHURCH-STREET, E.C.)

Apart from the excellent formula of these pills they readily break up and diffuse their contents in water at the temperature of the stomach. Each contains sulphate of iron, 2½ grains; carbonate of potash, 2½ grains; extract of cascara, 1 grain; and nux vomica, ¼ grain—a combination which is designed to obviate the constipation associated with anæmic conditions, while securing the beneficial effects of the protocarbonate of iron, which is formed on the interaction of the carbonate of potash with the proto-sulphate of iron.

MONTE FIANO (ITALIAN WINE).

(AGENTS: MORRISON, POLLEXFEN & BLAIR, 34, LEADENHALL-STREET, E.C.)

This wine is said to be grown under favourable environments both of soil and aspect, which doubtless would account for its freedom from that roughness upon the palate which characterises many Italian wines grown probably under less favourable conditions. As the following analysis indicates, it is a light, sound wine, well adapted for table use: alcohol, by weight 7·93 per cent., by volume 9·86 per cent., equal to 17·29 per cent. proof spirit; extractives, 2·03 per cent.; mineral matter, 0·18 per cent.; total acidity reckoned as tartaric acid, 0·42 per cent.; sugar, 0·10 per cent. Thus it is free from excessive acidity and contains practically no saccharine matters.

WINTER STOUT.

(BRATBY, HINCHCLIFFE & CO., LIMITED, SANDFORD-STREET, GREAT ANCOATS, MANCHESTER.)

This beverage closely resembles stout in appearance and tastes like home-brewed ginger-beer. Ginger, sugar, and a brown colouring agent—possibly derived from burnt malt—are probably, therefore, the chief ingredients of the preparation. On distillation it proved to contain 1·25 per cent. by weight of alcohol, equal to 1·57 per cent. by volume, or 2·75 per cent. proof spirit. In the light of this result it may be regarded as a temperance, and probably wholesome, beverage. It appears, however, to be liable to excessive and persistent frothing, which forms not a small drawback to a drink of this class.

COGNET'S CAPSULES (IODOFORM CREASOTED).

(LONDON AGENCY: ROBERTS & CO., 76, NEW BOND-STREET.)

The excellent formula of the fluid contained in these neat capsules is as follows: absolute eucalyptol, 0·10 gramme; pure creasote, 0·05 gramme; chemically pure iodoform, 0·01 gramme. On immersing a capsule in water at 100° F. the oily contents soon burst through the envelope, imparting the distinctive taste of each medicament to the water. The materials employed are evidently of the purest possible kind. The capsules are recommended in chronic bronchitis, laryngitis, and in other affections of the respiratory tract, as well as in phthisis.

New Inventions.

THE STANDARDISATION OF EUCALYPTUS OIL AND A NEW METHOD FOR THE SEPARATION OF EUCALYPTOL.

OIL OF EUCALYPTUS has of late years come largely into medicinal use, chiefly as an agreeable and effective antiseptic, and its purity is therefore of considerable importance. It is generally admitted that the oil best suited for medicinal purposes is that which contains the highest proportion of eucalyptol, which in genuine eucalyptus oil is the chief constituent. Other oil constituents have been known to be a source of irritation when the oil has been employed for the purposes of inhalation. Hitherto the standardisation and assay of eucalyptus oil have not been placed upon a very satisfactory basis, certain results of greater or less value being afforded by making observation of the boiling point and specific gravity, and by separating the eucalyptol by crystallisation in the cold. These physical methods promise now to be superseded by a well-understood chemical method, which is much more conveniently carried out and which is calculated to give a better estimate of the medicinal worth of the oil. The method alluded to is the precipitation of the eucalyptol in the form of a crystalline phosphate and its consequent complete separation in a pure state from foreign oils. Apart from the value of this discovery in affording a ready means of assaying eucalyptus oil, it enables the preparation of an article containing a perfectly definite and standard amount of true eucalyptol, so that standardised oil of eucalyptus may now be demanded. The process consists of the addition to the essential oil of eucalyptus or other volatile oil containing eucalyptol of a solution of phosphoric acid. For this purpose the oil to be treated should be at an ordinary temperature and not higher than 60° F., and the solution of phosphoric acid is best when it is of a specific gravity of not less than 1·750. The effect of this addition is to produce or precipitate a crystalline compound of "eucalyptol phosphate." The crystalline compound so formed is separated from the other constituents of the oil by any known process—such as pressure or centrifugal action—and the salt is subsequently decomposed by hot water for the production of a fluid absolute eucalyptol, which floats over the phosphoric acid solution and may be separated by decantation. This interesting discovery is due to Mr. L. R. Scammell, a member of the firm of Messrs. F. H. Faulding, of Adelaide and 9, South-street, London, E.C., who are placing standardised oil of eucalyptus on the market. We have recently examined in the Laboratory specimens of pure eucalyptol obtained in the manner indicated, and also a specimen of standardised oil stated to contain 50 per cent. eucalyptol. We found that the latter, when treated with syrupy phosphoric acid, turned into a semi-solid mass of crystals. On pressing the crystals between bibulous paper several times a clean and perfectly white cake of crystals was obtained, which on solution in hot water yielded a volume of eucalyptol exactly equal to a half of the volume of the original oil. This result is in perfect agreement, of course, with the statement that it contains 50 per cent. eucalyptol. Similarly the specimens of pure eucalyptol turned completely solid on stirring strong phosphoric acid with it, which on pressing and drying gave precisely the same volume as the original eucalyptol. The process is evidently a valuable discovery, and there can be little doubt of its importance, since it ensures the production of a pure and reliable agent for all medicinal purposes.

THE LANCET.

LONDON: SATURDAY, MARCH 16, 1895.

THE official roll of the profession, the Medical Register for 1895, is now before us, and calls for some analysis at our hands. We have already congratulated Mr. MILLER, the Registrar, on its early appearance.

The most interesting part of the volume to the profession is Table F., which shows the number of persons whose names were entered in, added to, or removed from the Medical Register, not only during the last year, but during the last twenty years. The names and addresses in the Register are only an approximation to the actual constitution of the profession at any given moment. There are constant sources of error in the migratory habits of a certain proportion of the profession, and in the unreported deaths of others. At special times, when the Registrar has wished to make sure of the accuracy of the addresses by letters of inquiry, five or six hundred of these letters have been returned unopened to the office. In one year no less than 618 names were removed from the Register because the persons whom they represented made no reply to such letters. In the last year this cause of error in the Register has only been ascertained in thirty-three cases, so that the statistics are unusually free from error on this score. There is another source of error which it is found difficult to eliminate—the number of deaths. This very table shows one of two things—either that the deaths in the profession are very inadequately ascertained, or that the members of the profession are getting healthier and less liable to death. All the deaths in 1894 that could be ascertained by the Registrar—and it is known that great pains are taken for this purpose—were 458. The deaths in the previous year were 546. Not only were the deaths during 1894 less by eighty-eight than those in 1893, but the average annual number of deaths of medical men for the last five years is much less than in the preceding five years. For the later period the average annual deaths were 522, whereas for the earlier, and with a smaller profession by thousands, the annual deaths were 582. The mortality of the profession is considered by statisticians to be excessive; it is therefore the more satisfactory to have this evidence that it is diminishing, but we cannot help fearing that a considerable proportion of such deaths are not reported to the Registrar of the General Medical Council. The profession is a scattered one; many of its members practise and die in remote places—on the sea, in colonies, and in foreign countries. We must not flatter ourselves that the 458 deaths in this table represent the total mortality of the profession.

But the most important figures in this table are those which give us the total numbers of the profession and enable us to judge of their tendency to increase or diminish. We may first notice the new names added to the Register. These numbers in recent years have been formidable. In 1887 1531 were added by registration to the profession, in 1892 1513, and in 1893 no less than 1579. In the year 1894, with which we are now dealing, after the bloated figures of the two previous years, it is a relief to find that there was a fall to 1426 registrations, or 153 less than those of the year before, in which the numbers were the largest on record. To show with what rapidity the numbers of the profession have lately tended to rise, we may say that, whereas the average additions to the Register for the last nineteen years were 1259, for the last five years they have been 1426, which we have seen is exactly the number added in the year 1894. Coming to the total number on the Register for this year, we find it to be 32,637, as against 31,644 for 1893, or an increase of 993. As we have said, this can only be an approximative number, being liable to various errors; but it is doubtless correct enough for all purposes. One proof of this is its close correspondence with the numbers in the Medical Directory obtained by other methods, which are 32,590, or 47 less than those given in the Register.

There is silent evidence even as to character in the figures of this table. A line is given to removals from the Register under the penal clauses of the Medical Act. Twelve removals of this sort are tabulated in 1894, and this is the largest number—twice the average number—in the history of the Council. We have no wish to make light even of such a number; but distributed over 32,637 it is not very serious, amounting to 1 in 2719. In the majority of these the transgressions which led to removal were not such as courts of law would take notice of, but offences under the Medical Act, such as covering, &c. Students of the Medical Register will find much other material of interest in this volume on which we cannot now dwell. Every member of the profession can add to its accuracy and its value by sending the Registrar early information of changes in his own titles or address, or of the death of medical men on the Register.

NUMEROUS as have been the researches on the mechanism of accommodation in the eye, none of the theories that have hitherto been advanced seem to be able to satisfy all the conditions; and from time to time fresh researches are made essaying to afford a solution of physiological or of pathological phenomena not accounted for or not being capable of explanation on existing theories. The most recent investigation and discussion on the subject are to be found in the current number of *Pflüger's Archiv*, from the pen of Dr. WILHELM SCHOEN, who has long been engaged upon it. The physiological problem of accommodation as propounded by AUBERT was: How can the increase in the convexity of the anterior curvature of the lens in accommodation of the eye for near objects take place without change of curvature of the posterior surface of the lens and without change of place of the lens itself? Dr. SCHOEN thinks the question to be solved would be better put in these terms: How can the increased curvature of the anterior lens surface in accommodation of the eye for near objects occur without change of place, without material alteration in the curvature of the posterior surface of the lens, without forward movement of the whole lens, and without increase of tension in the anterior chamber? The first two postulates and the last may be regarded as settled, for that there is no augmentation of tension in the eye as the result of the act of accommodation has been proved in a very practical manner

by FORSTER, who noticed that in a case of conical cornea which had been punctured to allow of the escape of part, but by no means of the whole, of the aqueous humour the cornea became concave on fixing a near object and convex on looking at a remote one. In a second case of perforating ulcer of the cornea, after abscission of the projecting portion of the prolapsed iris the corneal reflection became distinctly larger when near, and smaller when distant, objects were looked at.

The anatomical data given in many text-books are, Dr. SCHOEN thinks, incorrect, but he supports the views of DONDERS and of HENLE. He holds that the free part of the zonula or wall of the canal of Petit is composed of three fasciculi—an anterior, a middle, and a posterior—which separate from each other just behind the ciliary process. The anterior of these is identical with the anterior wall of the canal of Petit, and extends, forming arches with their concavities looking forwards upon the ciliary processes, to the anterior capsule of the lens, into which it is inserted tangentially about one millimetre in front of the equator of the lens. The middle fasciculus consists of a few fibres which are attached vertically to the capsule immediately behind the equator. The posterior cord is in close contact with the hyaloid, forms arches with their convexities forwards, and is inserted tangentially into the posterior capsule one millimetre behind the equator. Each of the cords is composed of separate fibres closely applied to each other. The canal of Petit is consequently bounded behind by the hyaloid membrane and in front is open to the posterior chamber by the spaces between the fibres of the anterior cord. Behind the ciliary process the fibres of the zonula decussate. The zonular fibres do not coalesce with the ciliary process, but extend over it for a considerable distance backwards, and they, with their epithelial investment, are continuous behind with the retina. The hyaloid membrane is quite independent of the fibres of the zonula. Much confusion has resulted from the non-recognition of this fact. At the ora serrata the retina becomes reduced to a single layer of columnar epithelium, which covers the choroidal epithelium as far as to the iris. Each of these columnar cells gives off a process which associates itself with that of the neighbouring cells. These collections of fibres gradually swell out to become zonular fibres and form the deeper layer of these fibres. At the ora serrata, in the eyes of the young and healthy, the retina slopes gradually into the ciliary epithelium. It consists here of supporting tissue only, or, more correctly speaking, of several rows of closely applied matted cells, the nuclei of which form two rows converging towards the ora. Here and there groups of cells form small villi which project from the retina. All of these cells send out processes like those above described, which run forward together and form the upper fibres of the zonula. The zonular fibres are thus nothing else than the elongated supporting fibres of the retina. In fact, the capsule of the lens is a continuation of the retina. It is doubtful whether the teeth—which, estimated at about forty in number, have given their name to the ora serrata—exist in the normal eyes of the child; macroscopically the ora forms a straight line, but there are many small villous processes at this part, and the name of ora serrata may be retained if no confusion is made between the above-named forty teeth well described by HENLE and the 800 small toothlets formed by the villous processes. The microscopic teeth are gradually formed in association with the exercise of the power of accommodation as age advances. As the zonular fibres, which proceed from the retina, run chiefly to the anterior surface of the lens capsule, whilst those arising more anteriorly from the ciliary epithelium run chiefly to the posterior surface of the lens capsule, a decussation takes place which is seen at the internal angle of the ciliary body. The zonular fibres do not coalesce with the ciliary process, but are so interwoven with it that they are not easily detached. Seen on the flat surface of the process they form a kind of trellis-work of parallel fibres which stain easily with hæmatoxylin eosin.

The fibres of the ciliary muscle are divisible into three groups: the circular fibres at the inner angle of the ciliary process; the internal meridional fibres which take origin at the root of the iris and the angle of the ciliary body; and, lastly, the external meridional fibres which arise from the canal of Schlemm. Both of the groups of meridional fibres end in tendinous fibres, which are identical with the elastic lamellæ of the lamina fusca and suprachorioidea. They penetrate the sheath of the optic nerve between the choroid and the retina. The anterior and posterior insertions of the external meridional fibres are relatively fixed. Their contraction causes an increase of pressure on the vitreous. The posterior attachment of the internal meridional fibres is relatively fixed, and the anterior relatively mobile. Their contraction draws the internal angle of the ciliary process backwards. The function of the external meridional fibres is chiefly to regulate the tension of the eye. The internal have the same action, but in addition keep the inner angle of the ciliary process in the right position and the lens at a proper optical distance.

After criticising the generally received theory of HELMHOLTZ to the effect that accommodation for near objects is effected by the contraction of the meridional fibres of the ciliary muscle, which relaxes the zonular fibres and thus permits the lens to become more convex, and those other theories which attribute accommodation to the action of the circular fibres of the ciliary muscle, to blood pressure exerted on the lens through the iris or the ciliary processes, to increased tension of the zonular fibres, and to change in the hydrostatic pressure in the anterior chamber, Dr. SCHOEN advances his own theory, which he thinks can best be understood from the following illustration. An elastic ball is to be grasped with both hands, the wrists being kept together. The ten fingers are then bent in so as to be applied to the ball along a line that, if the ball represented the globe, would correspond to the Arctic circle. If pressure be now made with the tips of the fingers the free part of the ball will bulge forwards. Now the finger-tips represent the ciliary processes and circular fibres of the ciliary muscle, the palms of the hands the meridional fibres of the ciliary muscle, and the two wrists the optic nerve. The anatomical relations, he contends, correspond completely to his theory for the anterior capsule. The zonular fibres and the retina form an investment to the vitreous humour and to the lens that are quite analogous to the elastic ball. The fibres of the ciliary muscle and choroid lie on the outside of the investment just as the palms of the hand are external to the elastic ball, and the ciliary processes form a similar groove, and exert the same kind of pressure

as the tips of the fingers in the above illustration. The depression caused by the ciliary process is always slight, never exceeding one millimetre.

IN accordance with the request of Her Majesty's Secretary for Scotland conveyed to them last May, the General Board of Commissioners in Lunacy for that country have furnished a special report respecting the Alleged Increasing Prevalence of Insanity in Scotland. This report has been published as a supplement to their last annual report. The Board at the outset say that no trustworthy information is obtainable in regard to assigned causes of insanity. They quote the following passage from their third report, published in 1861: "We should have been glad could we have presented a reliable statement of the causes of lunacy, but the information at our command on this subject is altogether untrustworthy." They go on to say that their experience subsequently to 1861 has not led them to modify in any degree the opinion then formed, that statistical tables founded upon the answers to the queries referred to (as to "supposed cause") would not only be quite valueless in throwing light upon the causes of insanity, but would be misleading. In addition to the natural disinclination to answer such queries, and to the impossibility of answering them where a patient's previous history is unknown, it may be observed that it is often impossible to say with certainty whether the supposed cause of the malady is really its cause or its effect; and that even when willingness to answer questions is present, when opportunities for observation are exceptionally good, and when the fullest knowledge is possessed of the patient's private history the true origin of the disease must often remain a mere matter of speculation. The Board go on to say that they do not know of any way in which it would be possible to obtain information as to the origin of the insanity of the patients on their register which would be of the smallest statistical or scientific value, and they have not therefore thought that any useful purpose could be served in dealing with the question from this point of view. The Board have from a very early period of their existence held and expressed the opinion that there is no statistical evidence that insanity is increasing. They state that they have dealt fully in their annual reports with many of the influences which they believe to have been sufficient to account for the increase of registered lunatics, and they allege that "none of them are such as involve the supposition that the increased number of registered lunatics is due to an increased liability to insanity in the community." In an appendix (E) the Board reprint the portion of their thirty-fourth annual report which deals with this question. Therein the following conclusions are drawn:—

1. That the increase of pauper lunacy is much beyond what would naturally result from the increase of population.

2. That it cannot be attributed to accumulation resulting from longer periods of residence of pauper lunatics in asylums.

3. That it is only in a very slight degree due to a lowering of the death-rate.

4. That there is no reason for believing it to be due to an increased tendency to insanity in the community.

5. That it is not due to any one cause.

In this same appendix they enumerate the following as among the causes of the increase of which they had spoken in former reports:—

1. The erection of new asylums for pauper lunatics, specially affecting localities in which no asylum accommodation for pauper lunatics previously existed.

2. The readier means of access to asylums due to increased facilities for travelling.

3. The gradual dying out among the public of feelings of dislike and suspicion towards asylums—a change which has resulted from an increasing recognition on the part of the community of the humane and enlightened methods of modern treatment and of the protection, comforts, medical treatment, and curative influences generally which modern asylums afford.

4. The greater readiness among the poorer classes to send relatives to asylums as pauper lunatics, which is due in part to the cause just mentioned, but also in part to a strengthened conviction of the difference which exists between the acceptance of parochial relief in cases of insanity and its acceptance under other conditions.

5. The growing unwillingness of the poorer classes to submit to all that is involved in keeping an insane relative at home (discomfort and expense, &c.).

6. The greater willingness of parochial authorities to recognise claims to parochial relief on the ground of insanity.

7. The stimulus, both to the readiness to seek relief and to the willingness to afford it, which has resulted from the giving of a State grant-in-aid towards the cost of maintenance of pauper lunatics.

8. The widening of medical and public opinion as to the degree of mental unsoundness which may be certified to be lunacy.

Three important memoranda are published as appendices to the special report. The first is by Sir ARTHUR MITCHELL, and deals with the Increase of the Number of Registered Pauper Lunatics, giving the results of the study of the statistics of the pauper lunacy in a locality specially selected as being best calculated to give an accurate view of what is really happening—viz., the Barony Parish, Glasgow.

ARTHUR MITCHELL'S conclusions are as follows: (1) that during the ten years 1883–92 there has certainly been no increased production of pauper lunatics; (2) that notwithstanding this the total number of lunatics chargeable to the parish has undergone a steady and considerable increase from year to year; and (3) that this has been due to an accumulation which results from the number of recoveries, deaths, and removals of unrecovered patients from the poor-roll being every year less than the production or crop of pauper lunatics.

The second paper, by Dr. SIBBALD, is a memorandum on the Increase in the Number of the Insane on the Register of the General Board of Lunacy for Scotland, with special reference to the allegation that it indicates an increased prevalence of insanity. This paper gives a historical summary of the conditions of the insane in Scotland prior to the passing of the Lunacy Act of 1857 and of the attitude of public opinion in regard to insanity during the first half of the present century. It then deals, among other points, with the influences upon the increase of numbers due

to the effects of the Act of 1857, the change in the character of asylums, the change of public opinion in regard to insanity, and the change of medical opinion in regard to the degree of mental unsoundness which justifies certification and the giving of the grant-in-aid. The conclusion which Dr. SIBBALD arrives at, from a study of the statistics, in the light of all the subjects referred to, is that they afford no evidence that mental unsoundness is to-day more prevalent in Scotland than it was. That no increase of insanity has taken place in that class of the community which is sufficiently wealthy to maintain its insane at its own cost is demonstrated by comparisons instituted by Mr. SPENCE, the secretary to the Commission, in the third paper, which is a memorandum on the Bearing of the Statistics relating to Registered Private Patients upon the Question as to whether Insanity is increasing.

The Board state that these three inquiries have been made in entire independence of each other, and have proceeded upon altogether different lines, and that all of them reach similar conclusions—conclusions which bear out their opinion, as expressed time after time, that the facts and figures, so far as they have been already collected and studied, afford no ground for a belief that insanity is to-day more prevalent in Scotland than it was thirty-six years ago, when the Board entered upon their functions.

Annotations.

"Ne quid nimis."

EPIDEMIC INFLUENZA: OFFICIAL MEMORANDUM.

WE publish elsewhere an official memorandum issued by Dr. Thorne Thorne, as medical officer of the Local Government Board, on certain preventive measures to be adopted against epidemic influenza. It is not difficult to see that the memorandum has been issued without much hope of preventing the recurrence of a disease which has already afflicted this country six times since the winter of 1889-90. When Mr. Shaw-Lefevre was asked in the House of Commons to issue a memorandum on the subject he cautiously replied that he would consider the matter; and when a second time Sir Walter Foster was questioned on the subject he frankly announced the views of the Board's medical department to the effect that not much good could be anticipated to result from the mere issue of a memorandum. And in the issue now made in deference to requests in the House of Commons it is easy to see that the medical officer has no great hope in any general measures of prevention. He refers to the facts that influenza is often infectious before it is recognised, that it is often never diagnosed at all, and that its incubation period is of the shortest. These conditions alone make the disease a most difficult one to grapple with from the preventive point of view; and when it is further remembered, as Sir George Buchanan put it in 1891, that owing to the brief incubation period one case of influenza can "give rise to some thousand attacks in the time that small-pox or typhus had taken to produce ten" it will be evident that the mischief is generally produced before the prevention can be applied. Then, again, the number of mild, but still infective, cases in which any sort of preventive control becomes impracticable is such as to make the question one of exceptional difficulty. If, however, aged and infirm people take note of the precautions suggested some fatality at least will be saved. And if in acute cases, where some control can be exercised, isolation of the sick and disinfection of sputa be insisted on further diffusion of the disease may to some extent be arrested.

THE PERILS OF FOOTBALL.

AN inquest was held at Hexham on Friday, March 8th, on the body of a player, who died on March 5th from injuries received in a football match, played under Rugby Union rules, on the previous Saturday. On a verdict being returned in accordance with the medical evidence, which showed that the unfortunate man had died from the effects of a collision between his head and the hip of an opponent whom he was attempting to "collar," the jury added a recommendation that a revision of the Rugby Union rules to make the game less dangerous was necessary. With this sentiment we are in accord, but we should like to see the suggested revision of the rules of either code; we should like to read some serious proposals for lessening the perils of the game which had emanated from players thoroughly familiar with all the details of both codes. If the recommendation of the Hexham jury brings such a revision into the sphere of the practical politics of the football world it will have done a great thing, but we fear that to this we cannot look forward. It has been our practice to issue now and again a summary of the severer accidents that have come under our knowledge as having occurred in the football field, and as the result of much practical experience we have been unable to see in what direction the rules of either code could be revised so as to lessen the dangers without spoiling the game. And whoever spoils the game places himself in the responsible position of depriving an enormous number of his fellow-citizens of the incalculable benefits to be obtained from a form of exercise which appeals by its splendid athletic possibilities as much as by the moderation of its demands on their time and purse to the whole of the younger generation. Though we do not think that the recommendation of the Hexham jury will have practical effect in leading to a revision of the rules—because we do not see in what way such revision is to be made—we think that it cannot but have a distinct value in one direction. It will cause the public to see that it is possible to raise a voice against the obvious perils of football without being necessarily a namby-pamby sentimentalist or desirous to keep the youth of the country permanently swaddled in cotton-wool. Great things are not to be expected from revision of the rules; for though we have heard the opinion expressed freely and frequently that such revision should be at once effected, we have never been able to find any practical player who could suggest any changes, either by altering or rescinding existing clauses, that would obviate any of the perils of the game. But great things may be expected if the mass of players can be compelled by a severer penal code to preserve a better spirit. The powers of the referees must be further extended, and the penalties for foul play and insubordinate behaviour made prohibitive. A verdict of manslaughter brought in against the whole of both sides is but one step in advance of the verdict, with its rider, that we chronicle above. When this occurs the authorities in the football world will recognise that an unchecked evil has grown up amongst them. Why do they not see it now? We appeal to all right-minded players. There is nothing effeminate in putting down brutality with a strong hand. Why not begin?

ELECTRIC LIGHT MAINS AND THEIR DANGERS.

AN accident occurred at Bristol on Feb. 25th which resulted in the death of a workman and was probably due to a momentary inadvertence on his part. It appears that it was the duty

of the man in question to remove the dust from a high tension fuse board, and whilst doing this with the right hand covered by an indiarubber glove the left hand (bare) seems to have touched a fuse terminal, and thus his body made contact to earth with the 2000-volt main (the second condition of contact referred to at p. 281 of THE LANCET of Feb. 2nd). It appears from the evidence of the corporation engineer that there were no printed regulations for the guidance of workmen employed on this particular duty, but it was the rule that when engaged on high tension work one hand only should be used, and that hand covered by an indiarubber glove. The story of this accident is no doubt the old story of carelessness; but there may be room for doubt as to whether this carelessness was entirely on the part of the workman who suffered. Assuming that it was necessary to clean this apparatus whilst the electric current was passing over it, were the insulation precautions adequate? As a matter of fact, ought this man to have been at work on this "live" high tension apparatus without being duly insulated from the earth? Might he not have been provided with an indiarubber mat and boots as well as with gloves for both hands, with at the same time an imperative caution staring him in the face never to relax the paramount rule of working only with one hand?

THE RAM, THE BULL, THE HEAVENLY TWINS.

A CORRESPONDENT, writing from that grave haunt of learning, the Athenæum, makes a suggestion which, although admirable in itself, savours rather of the philosophy of Laputa than of present-day science. Since, he says, twin calves are sterile, if the same condition obtains among human beings a wide field is open to twins in the nursing of phthisical patients, for it is a well-known fact that patients recovering from illness are more apt to fall in love than at any other period of their life, and thus the baneful disease of phthisis might not be handed down to posterity more than is absolutely necessary. Now, if we allow the premisses, the conclusion is excellent; but, unfortunately, the theory does not fit in with the facts. Twins of the bovine species undoubtedly often are sterile, some of them are generally more or less hermaphrodite. But it is far from being the rule, as numerous instances are on record where twins of both sexes have proved fertile. Amongst sheep, generally uniparous animals, it is not uncommon for an ewe to have two, three, four, or even five lambs at a birth, but no complaints have been made as to their being sexually defective, and in the human race twin children, even when boy and girl, are no more impotent or sterile than other children. We are afraid, therefore, that our correspondent's well-meant suggestion for checking the hereditary transmission of phthisis is impracticable, but it may comfort him to know that statistics show the percentage of phthisical cases who have a family history of the disease is only 33 to 36 per cent., so that, roughly speaking, even under his *régime*, there would still be left some 65 per cent. of cases.

DIPHTHERIA IN LONDON.

FOR the fourth week in succession diphtheria in London showed a rise in the matter of fatality, the deaths having been in the past five weeks 34, 27, 29, 31, but last week 34. Thus the disease would appear to have reached a stage at which it is difficult to improve its fatal aspect. Nevertheless, the decennial average for the particular week was exceeded by 9, though, on the other hand, all the deaths were in persons aged under twenty years, pointing to school influence in the cases. As many as 26 cases were in young children under five years of age. Of the total, 4 belonged to St. Pancras and 4 to Greenwich, 3 each being credited to Hackney, Bethnal Green, Battersea, and Camberwell sanitary districts. There were in the hospitals of the Metropolitan Asylums Board on Saturday last 454 cases of diphtheria, there having been a continuous fall since the week ending Jan. 26th, when the number stood at 528, but the admissions do not appear to be any accurate criterion of the actual amount of the disease in London. The admissions last week numbered only 55. In Greater London there were 11 deaths registered from diphtheria, of which 4 belonged to West Ham and 2 to Edmonton districts.

HOSPITAL SATURDAY AND SUNDAY IN MARYLAND.

THE Hospital Saturday and Sunday Association of Baltimore was instituted in 1882 by the Hospital Relief Association of Maryland, U.S.A., and has recently issued its thirteenth annual report. In 1894 the collections were made on consecutive days—viz., on Nov. 24th and 25th, the amounts contributed being $590 on the Saturday and $1290 on the Sunday; the total was therefore $1880, or about £384, in which fifteen hospitals and homes were entitled to share. The Hospital Relief Association, although closely connected with the Saturday and Sunday Association, publishes a separate annual report, which shows that its philanthropic operations are mainly carried on by lady workers, and that its financial position is very satisfactory.

MYSTERIOUS DISAPPEARANCES.

THE heading "Mysterious Disappearance" is not at all an unusual one in the pages of our contemporaries, morning and evening. As a rule the heading is the introduction to an account of the sudden and unaccountable disappearance of some man or woman, occasionally on the eve of some important event, but more frequently under circumstances which do not present even that excuse for an explanation. Doubtless it occasionally happens that some sufficiently strong reason for the disappearance in the shape of financial or other embarrassments is discovered in the course of days or weeks; but even after all allowance is made for such presumably intentional disappearances a certain number remain unexplained and inexplicable. We have often wondered what the sequel to such an occurrence is, but if ever there is a sequel it must occur when the memory of the mysterious disappearance has faded from the minds of all except an interested few; and even if the reappearance is occasionally chronicled it has nothing like the dramatic significance which the disappearance had, and but rarely evokes comment or excites interest. Yet to the psychological student these events present a most interesting problem, and a recent article by Dr. Osborne in the *Medico-Legal Journal* on People who Drop out of Sight appears to afford food for thought, not only to the student, but even to the proverbial "man in the street." The first case mentioned is that of a man, thrifty and industrious, prosperous in his business, and exemplary in his family relations, who left his house one Sunday afternoon to have a short walk, being reminded by his wife as he went out not to be late for dinner, which was to be ready in a few minutes. He did not return, no trace of him could be found, and no reason for his disappearance was discovered when his affairs came to be wound up, as they had to be in the course of time. Two years later, in a shop in one of the southern States of America, a man who had been known as an industrious, although taciturn, workman suddenly seemed to wake up and asked where he was and how he had got there. Gradually things came back to him; he remembered leaving his house in the north on a Sunday afternoon two years before, but everything that happened subsequently was as if it had not been. Nothing of his wanderings could be discovered further than that some months before he had appeared in the town in which he came to himself, and had asked for and obtained work, which he had performed diligently and

efficiently. He was restored to his family, and at the time the article was written had resumed his former life. Another and even more striking case is related—that of a lawyer, a well-known public man and politician, of more than usual ability and in a prominent social and professional position. One day, while in the midst of some intricate and important legal work, he stepped outside for a few minutes. He also disappeared. The most vigorous and thorough search failed to discover him, dead or alive. Streams and reservoirs were dragged, woods were searched, and every means at the disposal of wealth and influence were used to discover his whereabouts. He was known to be abstemious in his habits and happy in his home, and a searching examination of his business affairs failed to reveal the slightest irregularity in them. Several months passed, when at length word came through Government channels that the missing man was in Australia and was applying for means of establishing his identity and procuring his transportation home. He was successful in satisfying his friends of his identity, money was transmitted to pay for his passage, and in due time he arrived. After a short period of rest he resumed his professional work and has since continued to be just as he was before his sudden and quite unaccountable disappearance. It is an interesting question, How are such cases to be accounted for? The suddenness of the disappearance, the absence of motive, and the utter inability of the patients to give even the slightest account of their experiences during the time which elapses between their disappearance and their coming to themselves, all give a certain weird character to these aberrations. Are they of the nature of post-epileptic phenomena? Are they lapses into an *alter ego*, and if another such lapse occurred would the patient take up the thread of this second existence where he had dropped it to resume his, what we may call, ordinary identity? These are interesting questions. Unfortunately they are unanswerable. All that we can say is that these disappearances partake of the character of post-epileptic phenomena, and that in some patients who have suffered from lapses similar to, if not so severe as, those just described a more or less definite history of true fits of epilepsy has been obtainable. And another thing is also significant—viz., the very close resemblance that these attacks bear in their character, if not in their duration or severity, to somnambulism, while the relation which this bears to epilepsy, if not very definite, is certainly close. Yet whatever theory is put forward to explain such phenomena as those just referred to, they remain striking and mysterious, interesting in their psychological aspect, but in their concrete form full of practical and medico-legal difficulties.

SOME AUSTRALIAN DANGERS TO LIFE.

SYDNEY SMITH once said that Nature, having made all sorts of useful animals and birds for other parts of the world, seemed determined, when supplying organic life for Australasia, to give free play to her fancy. "Accordingly she made cherries with the stones outside, a monstrous animal as tall as a grenadier, with a tail like a bed-post, hopping along at the rate of three hops to a mile, with several young ones looking out of its false uterus, and a kind of mole with webbed feet and the bill of a duck, which agitated Sir Joseph Banks and rendered him miserable from his utter inability to decide whether it was a bird or a beast." We are led to quote these somewhat frivolous remarks by having just received a very interesting anniversary address, delivered before the Royal Society of New South Wales by Dr. Anderson Stuart, in his presidential capacity, on May 2nd, 1894. The animal which agitated Sir Joseph Banks was the Ornithorhynchus paradoxus, a curious survival of a very primitive type of animal. For a long time it was considered to be quite harmless and destitute of any weapon of offence, although the hind legs of the males were armed with a powerful spur, apparently connected with a gland. Then the opinion was advanced that this might be a weapon allied to the poison armoury of snakes, scorpions, and bees, all of which possess a sort of hypodermic poison syringe. Though one set of observers asserted that this was the case another set denied it, and so Dr. Stuart determined, if possible, to solve this question. He received two independent accounts, which coincided perfectly, and from them he concludes that at certain seasons, at all events, the secretion is virulently poisonous. The mode of attack is not by scratching, but by lateral inward movements of the hind legs. Two cases are reported in dogs. One dog was "stung" three times, the symptoms much resembling those from bee or hornet poison. The dog was evidently in great pain and very drowsy, but there were no tremors, convulsions, or staggering. It is worthy of note that a certain immunity seems obtainable, for the dog suffered less on the second occasion and still less on the third. Two cases of men being wounded are reported, in both of which the animals were irritated, one by being shot and handled, the other by being handled only; the symptoms were the same as in the dog. No deaths are reported in human beings, but four in dogs. Another poisonous animal is the red-backed spider — Lathrodectus — though the Sydney variety does not seem so virulent as Lathrodectus decempunctatus, from which Professor Kobert obtained a poison so powerful that $\frac{1}{18}$ gr. would kill a man twelve stones in weight. Many instances of fatal results from the bite of these spiders are recorded. Another pest very fatal to dogs is a bush tick. In this case also one attack confers immunity from a second, and in districts where they abound dogs are frequently immunised by letting the tick remain until the first symptoms appear and then removing it. Upon complete recovery this is repeated. Other portions of Dr. Stuart's highly interesting address dealt with vaccination for anthrax, most successful in the case of sheep, disposal of sewage, and sanitary legislation.

A PERAMBULATORY KITCHEN FOR THE POOR.

IN the current number of the *Nineteenth Century* Miss Sellars makes an appeal for the establishment in London of people's kitchens as in Vienna. Mr. Frederick Greenwood, commenting on this in the *Pall Mall Gazette*, makes the very sensible suggestion that the stationary kitchen should be supplemented by a "flying one," to use a military term. "Suppose," says Mr. Greenwood, "a kitchen built of fair amplitude, and with every appointment of economy and cleanliness visible at a glance. From this kitchen (or from a dozen such) a smart van starts off at the midday hours to go its rounds. The van is broad and deep, like those employed for moving furniture from one house to another. Glaringly clean, it is fitted up with trays and other receptacles heated by mineral oil or portable gas. The various receptacles contain three or four kinds of food appropriate to the dinner hour; which kinds are not the same every day, but are always wholesome, always savoury, and such as are well liked of those for whom they are provided. Milk is distributed from door to door in cans, as beer used to be: why not close-covered cans of hot, strong, newly-made soup, or of 'Irish stew'? Small puddings — meat puddings, plum-puddings; fish fresh drawn from the bubbling pan; roast potatoes; potatoes fried; portions of well-cooked beef; portions of mutton stewed in rice: such viands as these might be carried round, hot and good, with dishes of cold meat and salad in the summer time." We most cordially endorse this suggestion. The mere fact of giving the poor an opportunity of choosing from a variety of dishes would be an inestimable boon. Anyone who has been in and out of the homes of the poor will remember that they

have but one way of cooking things—i.e., they are "done" in a frying-pan, not properly fried—that is, boiled in fat—but burned and made greasy. Any kind of stew or tasty compound of scraps of meat and vegetables with rice is unknown. On Sundays they have a bit of baked meat with potatoes under it. Soup is never made. The experiment of taking food to workers who have neither the time nor the place to prepare it has been tried on a small scale with great success by the Sisters of the Church Extension Association with their food truck at the Docks. The expense of starting one of these kitchens would not be very great and it would be well worth the while of the various charitable societies to combine and make the experiment.

REGISTERED DENTISTS.

THE Dentists' Register for 1895 shows that there are 4874 registered dentists in the United Kingdom. Of these the great majority, 3479, practise with no special qualification, but on the strength of their own declaration that they were engaged in the practice of dentistry before the passing of the Act. A few of these have taken qualifications. The new registrations during last year of dental practitioners have been 84. Of those on the Register 1363 hold a licence in dental surgery; they are distributed among the following colleges as follows: the Royal College of Surgeons of England, 663; the Royal College of Surgeons of Edinburgh, 133; the Faculty of Physicians and Surgeons of Glasgow, 113; and the Royal College of Surgeons in Ireland, 454. There are eleven doctors of dental medicine of the University of Harvard on the Register, and sixteen doctors of dental surgery of the University of Michigan. Our readers are aware that the registration of the degrees of these universities has been for the present discontinued.

THE LATE SIR WILLIAM SAVORY.

WE have been favoured by Mr. Oliver Pemberton, F.R.C.S. Eng., with an inspection of a letter written to him by the late Sir William Savory on Feb. 25th with reference to Mr. Hulke's death. It is interesting to record Sir William Savory's words, written as they were little more than a week before his own death: "Hulke was the most accomplished man in the profession, and the loss of him the greatest that could have befallen it; and this not from his great learning, but because of his integrity and honour." After referring to Mr. Hulke's somewhat reserved nature and to the long and intimate friendship which existed between Mr. Hulke, Mr. Oliver Pemberton, and himself, he closes his letter with the words: "Personally I cannot measure the loss." The friendship between Sir William Savory and Mr. Pemberton was accentuated by the fact that in "college politics" certainly, and on many other subjects probably, they held very divergent views.

Previously to the interment of the remains of the late Sir William Savory at Highgate Cemetery on Thursday, March 7th, a memorial service was held at St. George's Church, Hanover-square, the Rev. David Anderson officiating. The chief mourners were Sir Borradaile Savory, son of the deceased baronet, and his wife, Lady Savory; Dr. Savory, brother of the deceased; Mr. Henry Morris; Mr. Greenside; and the Rev. Dr. Cosmo Gordon. Among those who attended the service were Sir James Paget, Bart., F.R.S.; Sir William Broadbent, Bart.; Sir William Flower, F.R.S.; Sir William MacCormac; Dr. Habershon; Lieutenant-Colonel Moon; Mr. Howard Marsh; Sir Trevor Lawrence, Bart., treasurer of St. Bartholomew's Hospital; Sir Dyce Duckworth and Lady Duckworth; Dr. Constantine Holman; Dr. Thorne Thorne, C.B., F.R.S.; Mr. Thomas Bryant; Professor Stewart; Mr. Thomas Smith; Canon Elwyn, Master of the Charterhouse; Sir Henry Edwards, Bart.; Mr. Reginald Harrison; Mr. Alfred Willett; Canon Phillips; Colonel Black; Dr. Shore, Warden of St. Bartholomew's Hospital; Mr. Dickins; and Mrs. Walter Spencer, on behalf of the Royal British Nurses' Association. The floral tributes were very numerous, amongst them being one from the students of St. Bartholomew's Hospital with the arms of the institution wrought in primulas and violets. The floral offering of the matron and sisters consisted of lilies of the valley tied with black ribbons, representing the well-known magpie colours of the hospital. A wreath was also sent by Princess Christian, President of the Royal British Nurses' Association, in which the deceased surgeon took a very great interest. The Rev. Dr. Cosmo Gordon officiated at the graveside service.

THE FOOD AND DRUGS ACT IN THE CITY OF LONDON.

IN his capacity as public analyst for the City of London Dr. Sedgwick Saunders reports that 161 analyses were made in 1894 with the result that in no case was it deemed necessary to institute any prosecution, although some of the articles examined were perilously near adulteration. These included several milks which were "below the standard of every analyst in the kingdom excepting those who direct the chemical work at Somerset House, who still refuse to adopt the standard fixed by the Society of Public Analysts." Whilst the number of samples taken for analysis during the year in England and Wales was equal to one for every 779 of the population, in the City of London one sample was examined for every 347 persons, so that the conclusion that "the articles supplied by retail traders throughout the City are fairly genuine on the whole" is based upon a higher proportion of articles analysed per head of the population than in most other districts. As in previous reports, Dr. Saunders calls attention again to the necessity of improved administration of the Act, as illustrated in the question of standards (for milk principally), the mode of collecting samples, the inadequacy of fines, and the leniency of magistrates in dealing with proved offences. These points each and all were discussed in an article in THE LANCET of March 2nd, 1895, and we are glad to find that the analyst for the City of London is using his influence towards effecting much-needed reforms on the lines we have again and again indicated.

THE DIFFUSION OF SMALL-POX.

THE record of small-pox occurrences in London was last week identical with that of the preceding week, the fresh cases having been 8 in number. No death from the disease was registered, and all the new cases were removed to hospital, the number of patients remaining under treatment last Saturday being 54, a decrease of 14 on the total of the previous week. In the six weeks ended last Saturday there have been notified in London 83 cases of small-pox, and 8 deaths have resulted, nearly 10 per cent. of mortality. In the four weeks ended with the 23rd ult., of a total of 67 notified attacks, no less than 57 belonged to the parish of St. Marylebone. It is, at any rate, satisfactory to see that a recrudescence that augured so badly for that parish has been controlled in such a manner as the recent data would appear to indicate. The only news of any account coming from the home counties in respect of last week is concerning a few cases of small-pox at Bedford, but not of much moment, we trust, for that borough. In the Midlands there were again but very few cases at Birmingham, this continued record of slight invasion of that city as compared with previous months seeming to point to permanent abatement of the disease. Northward, however, the borough of Derby registered another death from small-pox last week, and several attacks are chronicled. The disease

seems to have been smouldering there for some little time past, but the sanitary department is actively engaged in dealing with the present reappearance of the infection. Reassuring news comes from Liverpool and its suburbs, the small-pox of last week having been insignificant in amount in the city and surrounding districts. The last week of February witnessed 2 deaths from small-pox in Edinburgh, where 4 deaths from the disease were registered in the month, Glasgow having had 2 deaths registered in the month. In Dublin in the week ended March 2nd, the admissions of small-pox cases to hospital numbered 31, a decrease of 6 on the number of the preceding week, and of 25 on the week ended Feb. 16th. The discharges again outnumbered the admissions, having been 52, and the deaths were 4, all in unvaccinated persons, 2 at ages between five and twenty years, and 2 at ages from twenty to forty. At the close of the week the acute cases under treatment were 110 in number, as compared with 135 on the previous Saturday, and with the convalescent patients at Kilmainham the total still under isolation was 235. During the nine weeks of the present year the admissions were 537 and the registered deaths 63, a percentage of mortality of nearly 12 on the admitted cases; but everything points to a steady decline in the epidemic.

THE STANDARD AGE FOR CHILD LABOUR.

IT is significant of an increasing perception of the value of education that many persons in the present day are dissatisfied with the standard age limit which regulates the labour of children in this country. The allotted minimum of eleven years is represented in France and Germany by that of fourteen, and in other countries of twelve years. A system which allows of earlier occupation has about it a certain aspect of commercial convenience. We are not, however, disposed to defend it on this ground. We cannot but think that any such apparent advantage is likely to be rather dearly purchased at the cost of other present and solid advantages and likewise of ultimate efficiency. The work a boy will do in the first year, or indeed in the first two or three years, after leaving an elementary school must be of comparatively small consequence either to himself or his employers. The same period spent in learning would very materially add to his intelligence when at its close he entered the working ranks. It might, and in our opinion should, be spent partly, if not entirely, in acquiring some technical knowledge with a view to later and more intimate acquaintance with the trade to be pursued through life. By such an arrangement we might expect to increase the most justly valued class of workmen in this or any other country—namely, those thoroughly versed in a professed calling—and to reduce the numbers of the comparatively aimless and inefficient "Jacks" who are masters of none.

ISOLATION ACCOMMODATION IN CHESHIRE.

UNDER the provisions of the Isolation Hospitals Act, 1893, Mr. Francis Vacher has recently made for the Cheshire County Council a full report upon the isolation provision at the present time possessed by the several sanitary authorities throughout the administrative county. Although Mr. Vacher's report has reference, in the first instance, to those districts to which the Isolation Hospitals Act more particularly applies, he has embraced in it a description of the accommodation possessed by the county boroughs in Cheshire, as also by the municipal boroughs, whether or not they possessed at the last census 10,000 persons. Mr. Vacher gives a short history of each hospital, an account of the building, the number of diseases and patients for which provision is made, and much other useful information. After making certain deductions in regard to the population of the administrative county, Mr. Vacher concludes that on a basis of one bed per 1000 of the population the urban and rural districts of the county should provide 533 beds. At present there are but 238, and, many of them being in temporary buildings, Mr. Vacher reckons that the number of beds actually needed is some 370. Having arrived at this estimate, he thence proceeds to discuss in what portion of the county additional accommodation is required and in what positions hospitals can conveniently be erected. For the purpose of the report the county is divided into an eastern, central, and western portion, and suggestions are made in each case for the provision of certain joint hospital boards.

FINES UNDER THE MARGARINE ACT.

AN important concession in regard to the working of the Margarine Act is being sought by the vestry of Shoreditch. It appears, according to a letter in a morning contemporary from Mr. Harris, the medical officer of health for Islington, that hitherto the invariable practice of magistrates has been to refuse to hand over the fines inflicted under the Margarine Act to the sanitary authorities, upon whom all the expenses incidental to the enforcement of the Act devolve. We quite agree with Mr. Harris that the Margarine Act would receive a healthy stimulus if the resulting fines could be handed over to the prosecuting authorities, as is the case with the Food and Drugs Act. Both Acts have practically one common object in view—viz., the prevention of fraud and adulteration—and their administration should surely, therefore, be placed upon the same basis. We trust the Home Secretary will use the powers he possesses to sanction the request which, as it seems to us, the authorities are reasonably urging.

THE EAST-END MOTHERS' HOME.

WE have received the report of the East-end Mothers' Home for the year ending Dec. 31st, 1894, with an intimation that the annual meeting of those interested in it will be held on the 18th inst. It appears that the in-patients during the year were 218, and the patients attended at their own homes were 284, in both cases marking an increase on the numbers in the previous year. We see that there were two deaths among the out-patients, and one among the in-patients. In order, however, for statistics on this matter to have scientific value it would be necessary to know at what period patients are discharged after confinement, and also in what condition—that is to say, were any patients discharged who could not be fairly classed as quite well? And, still further, were any patients who were seriously ill either sent to their homes or sent to some general hospital, as we are informed has been done on some occasions? and if so, did any such cases die, or only recover after a longer or shorter illness of more or less gravity? Two other points occur to us after reading the report and balance-sheet. One is that apparently the women attended at their own homes are charged a fee of 3*s.* 6*d.* each for such attendance. This certainly appears to us undesirable in many ways on the part of a charitable institution appealing to the public for support, and receiving, as we see it does, grants from the Hospital Sunday and Saturday Funds. Moreover, it appears contrary to the design of the home itself, as given on p. 3 of the report, which is "to maintain in the east of London a home for the treatment of poor married women during childbirth, free of any charge to the patients, also for training midwives and nurses for attendance on the poor at their own homes." The other point is that apparently the whole of the regular work of the institution, both as regards in-patients, out-patients, and instruction given to the midwives, is performed by one medical man. If we remember rightly there were formerly two visiting medical officers; and for many

reasons it appears desirable that an institution such as the East-end Mothers' Home should have an active staff of not less than two medical men. With only one medical officer the efficiency of the institution is obviously at the mercy of chance. Unavoidable absence and illness occur to every man. There could be no difficulty in obtaining the services of at least one other medical officer, as there are plenty of well-qualified men in the district, some one of whom would no doubt be willing to serve.

PREVENTIVE LAW.

THE Leyton Local Board has been condemned by Mr. Justice Cave in the Queen's Bench Division to pay Mr. Henry Eustace, a carpenter, damages to the amount of £100. It appeared that at the rear of the plaintiff's house there was a pit into which the local authority shot a quantity of refuse. There had been cases of illness both in the plaintiff's family and in houses close at hand, but there were also infectious fevers throughout the neighbourhood, and there was no evidence whatsoever to prove that this particular accumulation of rubbish had been the cause of disease. The whole of the medical evidence went to show that the nuisance in question had not caused any outbreak of illness. Nevertheless the jury, without even leaving the box, found for the plaintiff with £100 damages. This verdict, we take it, means that dust and refuse must not be shot near dwelling houses. Undoubtedly there can be no objection to such a regulation. It is something to know that what is likely to cause disease must be removed, and that, if it is not removed, damages can be obtained, even though no damage has been done. We hear a good deal about preventive medicine, but this is truly preventive law. It is not every day that we find juries, in so emphatic and unhesitating a manner, establishing this principle of prevention. The refuse, it was pretty evident, had done no harm; still, it might have done harm or might do harm in the future if allowed to remain there, therefore the verdict was for the plaintiff, and the local board was punished for its neglect by having to pay a handsome sum in damages.

THE INFLUENZA EPIDEMIC.

AS influenza does not appear in the list of notifiable diseases it is not possible to obtain any accurate notion of the extent of the present visitation; but there seems little doubt that the disease is being widely diffused throughout the country. The mortality from respiratory diseases remains exceptionally high, for although the Registrar-General's returns showed a slight diminution in the total deaths from this cause in London during last week—viz., 1366, as compared with the preceding week's return, 1448—yet it is noted that the corrected average was exceeded by 842. It is remarkable, on the other hand, that the deaths "attributed directly to influenza" should have risen from 296 in the week ending March 2nd to 473 in the following week, and as in all probability these cases due to influenza were mostly diseases of the respiratory system their subtraction from last week's return would reduce the mortality of the latter to very nearly the corrected average. As stated last week, we believe there is no doubt that the epidemic, so far as London is concerned, has subsided very materially in extent; but if anything approaching these high death-rates continues to be maintained it would prove that it is increasing in intensity. It must, however, be remembered that arguments on this score based on death returns alone are open to fallacy, since they by no means coincide with the epidemic wave. We shall be surprised if the returns of the present week do not show a very marked diminution in the mortality from influenza. I may be observed that the estimated annual death-rate in the thirty-three great towns of England and Wales amounted last week to 35·0 per 1000 of their aggregate population, a rate exceeded by Brighton (40·1), Halifax (42·8), Liverpool (45·2), London (41·2), Nottingham (37·7), Plymouth (48·0), and Preston (35·2). These rates, it is needless to say, are considerably above the mean rate at this period, the variation being notably so in some of these towns.

THE CARE OF AND ATTENDANCE ON THE INSANE.

WE learn that the Medico-Psychological Association of Great Britain and Ireland is about to hold an examination with a view to granting a certificate of proficiency in nursing and attending on the insane. The next examination will be held on Monday, May 6th, 1895. Schedules to be filled up by the candidates can be obtained from the registrar (Dr. Spence, Burntwood Asylum, near Lichfield), and the schedules, duly filled up and signed, must be returned to him at least four weeks before the date fixed for the examination. Monday, April 8th, will be the last day upon which, under the rules, candidates can enter their names for examination.

THE UNIVERSITY OF CAMBRIDGE AND THE EXTENSION OF SCIENCE TEACHING.

WITH reference to our remarks last week on the extension of science teaching, Dr. Joseph Griffiths, the hon. secretary of the Cambridge Summer School of Medicine for Qualified Practitioners, has supplied us with the following programme in advance. During the week beginning Monday, July 1st, and ending Saturday, July 6th, 1895, there will be clinical demonstrations at Addenbrooke's Hospital from 10 A.M. to 11.15 A.M. by members of the honorary medical and surgical staff; demonstrations with experiments illustrating subjects of clinical interest on alternate days from 11.30 A.M. to 1 P.M. in the Physiological Laboratory by Professor Foster and in the Pathological Laboratory by Professor Roy; and demonstrations in the afternoons daily in the Medical Schools by Professor Sir George M. Humphry, F.R.S., Dr. Anningson, Dr. Joseph Griffiths, and Mr. E. H. Douty, M.B.; in the Anatomical Department by Professor Macalister, F.R.S.; in the Pharmacological Laboratory, Downing College, by Professor Bradbury. There will also be lectures on special subjects in the evenings, at 8.30 P.M., by Professor T. Clifford Allbutt, F.R.S., Dr. Norman Moore, and others. On the Monday night, at nine o'clock, a conversazione will be held in the Physiological Laboratory, New Museums, when a short address will be given by Professor Sir George M. Humphry. For those accommodated in college, breakfast, lunch, and dinner will be provided in hall; and for those not accommodated in college, dinner (and it may be lunch) will be provided in the hall of one of the colleges. On one afternoon a garden-party will be given in the Fellows' Garden at King's College by Sir George and Lady Humphry. On other afternoons parties of visitors will be conducted round certain of the colleges. It should be noted that this programme is necessarily subject to revision in detail.

THE PEABODY TRUST.

THE trustees of the Peabody Donation Fund have recently issued their annual report for the year 1894, which contains the usual record of useful work and judicious management. The fund, which was founded by Mr. Peabody in 1862, and was afterwards increased by him from time to time to the magnificent total of half a million sterling, has, under the careful stewardship of the trustees, been more than doubled, and was valued at the end of last year at considerably more than a million pounds. The Peabody Buildings included a the end of the year no fewer than 11,261 rooms, besides bathrooms, laundries, and lavatories, in which resided o

Dec. 31st last 19,918 persons. The average rent of each dwelling was slightly less than 5s., and of each room rather more than 2s., the rent in all cases including the free use of water, bathrooms, laundries, and sculleries. The births among the resident population of these buildings in 1894 were equal to 36·3 per 1000, which was 6·3 per 1000 above the aggregate rate in London. The rate of mortality was only 15·7 per 1000, and 2·0 below the average rate in the whole of London. This death-rate includes 49 deaths of residents of these buildings that occurred in various hospitals, but it does not appear to include any correction for deaths of residents who drift into the workhouses and workhouse infirmaries, and this undoubtedly explains, at any rate in part, this remarkably low death-rate in a distinctly working-class population. The trustees of this fund have not made much addition to their buildings for several years, but have been employing their surplus revenue in repaying the sum of £390,000 borrowed from the Public Works Loan Commissioners, which has thus been reduced to £111,000. It is stated in this report, moreover, that since the beginning of this year two new blocks of buildings in Stamford-street, containing 110 rooms, have been occupied, which must have raised the resident population above 20,000 persons. The housing of this large population in improved and sanitary dwellings is a grand result from the operation of the Peabody Fund, and it is inevitable that the scope of its benefits will be very considerably increased in the not distant future.

THE BUCKINGHAMSHIRE SANITARY CONFERENCE.

THE report of the proceedings of this Conference, which was held at Aylesbury on Oct. 31st of last year, has recently been issued in pamphlet form, together with an introduction by Miss Florence Nightingale. Our readers will remember that in THE LANCET of Nov. 10th we gave a short account of the eminently successful Conference, and we are glad now to have an opportunity of drawing attention to the report. The Conference was held under the presidency of Mr. Frederick Verney, chairman of the sanitary committee of the Bucks County Council, and we believe we are right in saying that at the time of the Conference the relations between the sanitary committee and the council as a whole were such that many members of the council were desirous of terminating the existence of the committee. Fortunately, however, the very influential conference which Mr. Verney was instrumental in calling together, and the publicity which was given to its proceedings, succeeded in bringing home to the council the advantages from an administrative standpoint of a sanitary committee, and we are now able to chronicle that the life of the committee has been prolonged and received fresh vigour. Miss Florence Nightingale, in her introduction, points out that "money would be better spent in maintaining health in infancy and childhood rather than in building hospitals to alleviate and cure disease," and in saying this she places her finger upon a great blot in preventive medicine—our heavy infantile mortality. We can but feel that the Bucks Sanitary Conference has done well to publish its proceedings in their present form, as the circulation of the pamphlet cannot fail to assist in bringing about that popular education in sanitary matters to which one of the speakers more especially drew attention. We again congratulate Mr. Verney upon the success of his enterprise, and trust that all newly elected district councillors in Buckinghamshire will make themselves familiar with the contents of the report. There are few counties in our knowledge where there are better opportunities for sanitary reform than Buckinghamshire, and more especially is this the case with regard to isolation accommodation and the housing of the working-classes.

IN consequence of the recent indisposition of Sir John Erichsen (from which he is, we are glad to say, rapidly recovering) the complimentary dinner to him and his distinguished colleagues Sir J. Russell Reynolds and Sir John Williams, which we announced would take place on Wednesday, March 13th, has been postponed to Wednesday, March 27th.

AT the Council held on March 13th, the resignation of Alderman Vaughan Morgan as treasurer of Christ's Hospital was accepted, but he will continue to act until a successor is appointed. Alderman Vaughan Morgan remains treasurer under the old governing body of the endowments excepted from the scheme.

DR. LIDDELL, the former Dean of Christ Church, Oxford, presided at a meeting held in the Sheldonian Theatre, Oxford, on Friday, March 8th, to consider the proposed testimonial to Sir Henry Acland. It was resolved that the testimonial should take the form of a benefaction in connexion with the Sarah Acland Home for Nurses.

THE debate at the Pathological Society of London u on the Pathology of Diphtheria will be resumed at the meeting on Tuesday, March 19th. Mr. W. Robertson will read a paper upon the Immunisation of Horses. Dr. Washbourn, Dr. Sims Woodhead, and others have promised to take part in the discussion.

MR. FRANCIS GOTCH, M.A. Oxon. (Hon.), B.Sc. Lond., F.R.S., Holt Professor of Physiology in University College, Liverpool, and late a Lecturer on Physiology at Oxford, has been elected Waynflete Professor of Physiology in the University of Oxford, in the room of Dr. J. Burdon Sanderson, now Regius Professor of Medicine.

WE learn with pleasure that Dr. R. C. A. Prior, the Senior Fellow of the Royal College of Physicians of London, is making a satisfactory recovery from the severe attack of influenza from which we reported him to be suffering last week.

MR. FREDERICK WEBB, M.R.C.S., L.S.A., of 113, Maidavale, has presented to the Medical School of St. George's Hospital the sum of £1000 to found an annual prize in bacteriology.

SIR JOSEPH LISTER has accepted the Presidency of the British Association during the meeting which will be held at Liverpool in 1896.

THE THEORY AND PRACTICE OF PROTECTIVE INOCULATIONS.

BY E. E. KLEIN, M.D., F.R.S.

DR. KLEIN delivered a lecture on this subject at the London Institution, Finsbury-circus, on Monday, March 4th. Starting with the axiom that "the more accurately we know an enemy, the more easy it is to overcome him," Dr. Klein said it nowhere more adequately applied than in the prevention and treatment of disease. Since it had been conclusively shown that communicable diseases were caused by specific parasites which elaborated within the body specific poisons called "toxines," causing the particular symptoms of the disease, it had become possible to study more accurately these causes of disease and devise better means by which the life of the parasites and the action of their toxines might be inhibited or altogether destroyed. The treatment of infectious disease had been greatly advanced, and although some of these disorders were still in a stage of generalities far-reaching changes had taken place in others. The system of antiseptic surgery discovered and applied by Sir Joseph Lister—instrumental in reducing the mortality of

surgical operations, once very high, to an almost nominal figure—and the exact knowledge we now possessed of the propagation and spread of cholera and typhoid fever by means of water, milk, and other articles of food were cases in point. Scientific medicine, in contradistinction to empirical medicine, had acted on the more rational axiom that "he who cures may be the cleverer, but he who prevents disease is the safer physician," and had gradually unravelled the complex problems of the nature and cause of disease, and in many instances devised means of preventing communicable disease. Dr. Klein then referred to the remarkable achievements that had been made in general sanitation and in the direct prevention of disease by means of protective inoculation, of which Jenner's discovery of vaccination was the earliest example. In all civilised countries and among all civilised peoples the protective power of vaccination against small-pox had been amply confirmed and established. Two points were particularly worth considering—(*a*) was vaccinia or cow-pox a modified or attenuated form of human variola? or (*b*) was it a separate and specifically different disease? With regard to the first point, most pathologists and sanitarians agreed with the original proposition enunciated by Jenner—namely, that vaccinia or cow-pox was a mild form of small-pox in the cow, and just as an individual who had passed through one attack of small-pox was furnished with resistance and immunity against a second attack, so also an individual who had been successfully vaccinated has practically passed through a mild attack of localised variola, was therefore possessed of immunity against a second attack, and was protected against small-pox. In some other infectious diseases—scarlet fever, measles, and whooping-cough—one attack, however mild, furnished, as a rule, immunity against a second attack. This was acquired immunity, as distinct and different from natural immunity, as, for instance, the natural immunity of most young children against typhoid fever or cholera, and of many adult persons against measles. With regard to the second point, many pathologists, while recognising the protective power of vaccinia against small-pox, did not admit that cow-pox was an attenuated form of the human small-pox, but that it was a specifically different disease. This belief was based chiefly on the many failures which experimentalists had incurred in trying to produce cow-pox in the cow by inoculation of this animal with human small-pox. It was equally true, however, that there had been many positive results, inasmuch as in a few instances there had been produced in the cow by inoculation of matter derived from the vesicles of human small-pox typical cow-pox, which on transmission to the human subject produced vaccinia and not variola, and on further transmission from human being to human being continued to produce vaccinia in all its typical characters. Thiele, Ceeley, Badcock, and in more recent times Voigt, Fischer, King, Simpson, Hime, he (Dr. Klein) himself, and Copeman had had unmistakable positive results. The argument which maintained that vaccinia was of a specifically different nature from human variola was faulty for two reasons. First, as a matter of actual experience vaccination was now and then followed not simply by the production of a vaccine vesicle at the seat of insertion, but there appeared other additional vesicles even of the character of a general eruption; this, though of rare occurrence, was nevertheless a strong argument for its derivation from variola. Secondly, the "breeding true" of vaccinia in the human subject through however many transmissions and the failure of a reversion of vaccinia into variola were completely paralleled by what occurred in a disease occurring in the sheep, and was in all respects homologous to variola—namely, variola ovina or sheep-pox. Protective inoculation was used against this disease with large success in the South of France, Austria, and Germany. The lymph was "nursed" by local insertion through a succession of sheep, always producing a large local vesicle with mild constitutional symptoms. Such local inoculations had been practised over and over again, and as a general rule only at the places of insertion did a vesicle become formed; there was no general eruption, and therefore no reversion to the original type. It was clear from this that lymph derived originally from a vesicle of true variola of the sheep "bred true"—i.e., produced on transmission from sheep to sheep only local protective vesicles. If, however, this lymph were injected into the vascular system of a sheep true variola might be the result. Cheauvau, he (the speaker), and others had had cases of this kind. But while the inoculation was made by cutaneous insertion local vesicles only resulted. From this it followed that the argument because lymph derived from the cow and transmitted through human beings did not ultimately revert to variola, but produced a local vesicle only, in no way justified the conclusion that the two diseases, variola and vaccinia, were specifically different. The conclusion to be drawn from this was that Jenner's original contention was established. Dr. Klein then briefly referred to the work of Pasteur on anthrax and fowl cholera—a work which had been made possible by the discoveries of Koch. Satisfactory results in protective inoculations on the same lines as those pursued by Pasteur had been obtained in several—swine fever, swine erysipelas, &c.—but not in all infectious diseases. Unfortunately not in all infectious diseases did one attack protect, although a first attack furnished, for a time at any rate, a certain resistance; such was the case in diphtheria. In cases of acquired resistance or acquired immunity a condition was produced by the first attack by which the body was rendered unfit for a second attack. This sometimes happened after a mild first attack, but in other instances this only furnished a slight resistance and in still others no resistance. In these two latter cases the resistance could be increased by repetition of the mild attack and by using the second time a somewhat stronger virus and producing a somewhat stronger effect, but still only a passing one; and after many repetitions in these cases the resistance thus acquired could gradually be increased to a high degree. It had been shown, both for animals and for man, that the immunity produced by artificial inoculation of attenuated culture or acquired in the natural manner by a first attack of the disease was due to the presence in the blood of chemical substances produced in the course of the first attack; these substances were capable of neutralising the activity of the specific microbes. Moreover, it was found by Behring that the injection of blood serum of an immunised animal was capable of protecting an otherwise susceptible animal and of furnishing it with immunity, so that infection with the microbes of the particular disease was prevented. The degree of this protective or immunising power of the blood of an immunised animal stood in direct proportion to the degree of immunity or resistance which that animal had acquired by the previous injection or by the previous attack. That in diphtheria the blood of an immunised animal possessed an immunising or protective property in other animals had been fully proved, but it must be added at the same time that the protection thus produced was only of comparatively short duration. In the experiments in which the immunising and protective action of the blood serum of an animal artificially immunised against diphtheria or tetanus respectively was ascertained another important fact was elucidated by Behring, afterwards confirmed by a large number of workers—viz., that this serum not only possessed protective potency when injected into an otherwise susceptible animal, but that if injected into an animal in which the disease had already made its appearance it (the disease) could be cut short and the animal would recover. The serum, therefore, acted as a curative agent. Such serum had been applied both in diphtheria by Behring and Roux, as also in tetanus by Tizzoni and Centanni, with striking success in the human subject; and the published accounts of the cases so treated in Germany, Austria, France, Italy, and England placed it beyond doubt that in a large percentage of cases the disease was cut short and even in severe cases recovery achieved. A question of great scientific interest was the manner in which the serum of animals immunised against diphtheria or tetanus acquired its protective and its curative potency. Looked at from a theoretical point of view this double action might be due to either of two things: (*a*) the serum might contain one substance which had both these actions, or (*b*) it might contain two different substances, one for each separate action. The whole subject was only at the commencement of being understood, but this much was already certain, that the work on a sound experimental basis had already been productive of good results and was likely to be productive of still greater achievements in the field of protective as well as curative practice.

MEMORANDUM ON EPIDEMIC INFLUENZA.

WE have received the following memorandum from the Local Government Board, which will be read with interest at the present time:—

Influenza became epidemic in England in the winter of

1889-90; it recurred in epidemic form in the spring of 1891, and was maintained up to June of that year; a third epidemic took place in the winter of 1891-92, and after a minor recrudescence in the spring of 1893 a fifth prevalence on a wide scale took place in the winter of 1893-94. England is now passing through a sixth epidemic period. Two detailed reports have been issued by the Board on the subject. The first was by Dr. Parsons, on the Influenza Epidemic of 1889-90, with an Introduction by Sir George Buchanan, M.D., F.R.S., the Board's medical officer at that date.[1] The second was a Further Report on Epidemic Influenza, 1889-92, by Dr. Parsons, with papers on the clinical and pathological aspects of the disease by Dr. Klein, F.R.S., and an Introduction by myself.[2]

A "Provisional Memorandum upon Precautions advisable at times when Epidemic Influenza threatens, or is prevalent," was also drawn up by me in January, 1892, and was issued by the Board to local sanitary authorities.

The further study made by the Medical Department as to the natural history of influenza and as to its clinical and bacteriological characteristics goes to show that it is a disease against which it is most difficult to apply measures of prevention with any substantial prospect of success.

Influenza is highly infective from person to person; its infectious quality is often manifested before the disease is fully recognised; its incubation period is one of the shortest of all infectious diseases; it varies so much in intensity that many cases are never diagnosed at all; one attack confers no marked immunity against another; and the infection is largely eliminated by means of the lungs, the sputa of the sick being invariably charged during the acute stage of the disease with its pathognomonic micro-organism. The disease calls primarily for measures of isolation and of disinfection, but there are difficulties in making any such measures universally applicable. Wherever they can be carried out the following precautions should, however, be adopted.

1st. The sick should be separated from the healthy. This is especially important in the case of first attacks in a locality or a household.

2nd. The sputa of the sick should, especially in the acute stage of the disease, be received into vessels containing disinfectants. Infected articles and rooms should be cleansed and disinfected.

3rd. When influenza threatens, unnecessary assemblages of persons should be avoided.

4th. Buildings and rooms in which many people necessarily congregate should be efficiently aerated and cleansed during the intervals of occupation.

It should be borne in mind that the liability to contract influenza, and also the danger of an attack if contracted, are increased by depressing conditions, such as exposure to cold and to fatigue, whether mental or physical. Attention should hence be paid at epidemic periods to all measures tending to the maintenance of health, such as the use of clothing of suitable warmth, and a sufficiency of wholesome food.

Persons who are attacked by influenza should at once seek rest, warmth, and medical treatment, and they should bear in mind that the risk of relapse, with dangerous complications, constitutes a chief danger of the disease.

Local Government Board, R. THORNE THORNE
Medical Department, March 6th, 1895.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

AN ordinary meeting of the Council was held on the 7th inst., Mr. Reginald Harrison, the Senior Vice-President, being in the chair. The secretary reported the death on Feb. 19th of the President, Mr. John Whitaker Hulke, F.R.S. The following vote of condolence was passed: "The Council hereby record their deep regret at the death of their late colleague and president, Mr. John Whitaker Hulke, F.R.S., and in marking their sorrow for the loss of one so lately associated with them in all the duties and responsibilities of office express their most sincere sympathy with Mrs. Hulke and the other members of the family in their affliction. The Council feel that the College has lost one of its most distinguished Fellows—one who conferred honour on the College and the whole profession of surgery, not only by his admirable skill in practice, but by his eminent position among men of science to which his varied and rare knowledge so justly entitled him. The Council also record their appreciation of Mr. Hulke's services to the College while President, and in the several offices filled by him, and their respect for his exemplary rectitude and unselfish devotion to duty."

The Senior Vice-President then declared the office of President vacant, and the Council appointed the quarterly meeting on April 4th for the election of a new president.

The Secretary reported the death, on the 4th inst., of Sir William Scovell Savory, Bart., F.R.S., past President and past member of the Council and of the Court of Examiners of the College, and the following vote of condolence was passed: "The Council hereby record their deep regret at the death of Sir William Savory, Bart., F.R.S., and desire to express their very sincere sympathy with his family in their loss. The Council gratefully remember Sir William Savory's services to the College, and the records of the Council bear witness to the many and important instances in which the best interests of the College, and of the whole surgical profession, were promoted by his energy and wisdom. The Council call to mind the many rare qualities which won for him the admiration and esteem of all who knew him, and are assured that for these, as well as for his eminence as a surgeon, his name will ever be remembered with respect and honour."

A report, dated March 4th, was read from the Committee of Management:—"The Committee of Management have, in accordance with the request of the Royal Colleges, considered the report on the examinations for the Diploma in Public Health of the inspector (Dr. G. F. Duffey) appointed by the General Medical Council. They notice in the general conclusion that the inspector states that 'the examinations ..... give evidence on the part of candidates passing such examinations of a distinctly high proficiency, scientific and practical, in each and all branches of study which concern public health in which they are examined.' The inspector, however, in his observations, calls attention to the fact that there was no examination in bacteriology nor any clinical examination in infectious diseases. The committee desire, therefore, to point out that questions on bacteriology have frequently been given during the *viva voce* examination, and bacteriological specimens under the microscope and cultures of bacteria have been shown to candidates, and they doubt whether it is practicable to do more than test the general knowledge of the candidate in bacteriology in this manner. With regard to the remarks of the inspector in reference to the clinical examination in infectious diseases, the committee would further point out that in London the institution of such an examination would be attended with great difficulties, having regard to the large number of candidates and to the distance of the infectious diseases hospitals from the examination hall. Moreover it may be doubted if permission could be obtained for the examiners to conduct clinical examinations at the hospitals in question. It should be remembered, however, that the regulations require attendance on the practice of a hospital for infectious diseases, and this, if supplemented by a general knowledge of the subject shown by the candidate during his examination, is, in the opinion of the committee, a sufficient guarantee of his proficiency. It may also be doubted whether anything more than a superficial examination could be conducted at the bedside of patients with many of the infectious diseases." The report was approved.

Mr. T. Pickering Pick was appointed a member of the Committee of Management and Mr. H. G. Howse a member of the Laboratories Committee in the vacancies on those committees occasioned by the death of the President.

A letter was read from Mr. Wilde on behalf of the Society of Members, which stated that the society did not wish to oppose the suggested alterations in the by-laws referring to the voting papers and the fee for the dental diploma.

A letter from the Home Secretary was read, asking Messrs. Wilde, Berger, and Moore to transmit to the Council copies of the letters from the Society of Members, and to move the Council to favour him with their observations thereon. The subject was referred to the Vice-Presidents and Mr. Bryant past President, and they were requested to draw up a reply.

[1] Report on the Influenza Epidemic of 1889-90, by Dr. Parsons, with an Introduction by the Medical Officer of the Local Government Board. (C., 6387), pp. 324. Eyre and Spottiswoode, East Harding-street, E.C.

[2] Further Report and Papers on Epidemic Influenza, 1889-92, with an Introduction by the Medical Officer of the Local Government Board. (C., 7051), pp. 154. Eyre and Spottiswoode, East Harding-street, E.C.

A letter was read from Mr. H. Percy Dunn forwarding, by direction of the committee of the Association of Fellows, a resolution expressing regret at the death of the President. The letter was acknowledged with the thanks of the Council.

The Senior Vice-President reported, on behalf of himself and the Junior Vice-President, the delivery of the Hunterian Oration on the 14th ult., the oration being read by Mr. T. Bryant on behalf of the late President, Mr. J. W. Hulke, who was at that date unable through illness to attend. It was resolved to request the permission of the executors of the late President to publish the oration at the expense of the College.

THE NAVY AND ARMY ESTIMATES.

WITH regard to the naval estimates, it is clear that the Government is fully alive to the vital importance of preserving our supremacy at sea, and the Admiralty have redeemed their promises as regards an increase in ships, men, and works. The medical establishments and services, in regard to which our readers are more especially interested, are provided for in Vote 3. The estimate of the sum that will be required in the year ending March 31st, 1896, to defray the expense of the medical services, including the cost of medical establishments at home and abroad, amounts to £151,400, which shows a net increase of £7500 over the estimates of last year (1894–95). The salaries and allowances amount to £35,643, a slight decrease on last year. Under the head of medicines and medical stores we find that £80,000 are required for hospital and infirmary provisions and stores, medicines, and instruments; and the contributions in aid of lock hospitals at Portsmouth, Devonport, and Hong-Kong amount to £2350. The *personnel* of the Naval Medical Service seems to have undergone little or no change since last year. There are 2 Inspectors-General of Hospitals, 8 Deputy Inspectors-General, 10 Fleet Surgeons, 6 Staff Surgeons, and 27 Surgeons, 3 head sisters, 21 sisters, and 14 dispensers. A statement showing the number, salaries, and allowances of officers and clerical staff &c. at each establishment is also given in detail in another part of the estimates.

With regard to the army, we may say that the explanatory memorandum which it is now the practice of the Secretary of State for War to issue with the Estimates greatly facilitates the comprehension of their object, scope, and arrangement, the results of the figures, and the proposed changes, and, to a certain extent, the policy that will be followed is indicated. These are matters of general interest, and we may consequently advert to a few points. Although there has been a fall in the price of supplies the saving from this source, we are told, has been absorbed by the increase of the sinking fund to repay the loan for barrack reconstruction and by the necessity for increased expenditure in order to put many old buildings into a satisfactory sanitary condition. It is hoped that a battalion will be withdrawn from Egypt during the year, but judging from the present political aspect of affairs in that country we may add that this hope does not seem likely to be realised. Passing over the proposed augmentation of artillery so as to increase the proportion of field guns to men of other arms, in which respect the British is at present dangerously below Continental armies, we come to the remarks on the report of the Inspector-General of Recruiting. Speaking generally the results are very satisfactory. The short service system, we are assured, has at length been brought to as good a state as was anticipated when it was instituted by Lord Cardwell. The army is, we think, on the whole growing in popularity as a calling and means of livelihood. We wish, however, that we could see a larger number of recruits drawn from rural instead of urban populations, and that the artisan and labouring classes, rather than the clerks of our cities and towns, enlisted more frequently than they do. The troopships hitherto at the disposal of the army, of which most medical officers have had personal knowledge and experience, are worn out and have been abolished in favour of a system of hired vessels as transports. The new system will be practically tested before any decision is finally arrived at as to whether the old troopships will be replaced by new vessels or not. The vote for works is that which shows the largest increase in the Estimates. Of the increased expenditure upon new buildings the whole of that for barracks—viz., £58,000—is for hospital and urgent sanitary services, and even of the increase for store buildings half the sum is taken to further the scheme of the corporation of Dublin for improving the sanitary condition of that city. The progress of the works under the Barrack Act, 1890, we are told, continues to be satisfactory, the average annual expenditure being a little over £600,000. Up to the present time the sum of £3,000,000 has been authorised, and nearly £2,400 000 actually paid.

Passing to Vote 2 in the Army Estimates—that for medical establishment, pay, &c.—we find that the estimated sum required for the year ending March 31st, 1896, to defray the expense of the pay and allowances of the medical establishment and cost of medicines, &c., is £292,000, being an increase of £2000 over 1894–95. The pay &c. of the medical staff are estimated at £229,500; that of Militia medical officers and civilian practitioners amounts to £10,600; the cost of the Medical Staff Corps, nurses, clerks, and other subordinates is estimated at £37,000, and the cost of medicines &c. at £15,000, which is £1000 less than for 1894–95. A statement showing the rates of pay &c. and the allotment of the staff to the various districts and stations at home and abroad is given in Appendix No. 8. The total of the medical staff on the British establishment is 614, and that on the Indian establishment is 335. The estimated sum required for the Army Medical School, Netley, is £7,600.

Vote 14 gives the non-effective charges for officers; the total estimate for medical officers for 1895–96 amounts to £198,000.

THE PROPOSED ASSOCIATION OF QUALIFIED MEDICAL ASSISTANTS, JUNIOR MEDICAL OFFICERS, AND LOCUM-TENENTES.

A MEETING for the purpose of organising the proposed Association of Qualified Medical Assistants, Junior Medical Officers, and Locum-tenentes was held at the Examination Hall, Victoria Embankment, on Monday last, March 11th. Dr. Glover presided, and was supported by Mr. T. Howard Brocklehurst, the organising secretary, and Mr. C. Legg.

Dr. J. G. GLOVER said the cause they had met to promote was in itself a good one, and was really called for. The qualified assistants of the country were a numerous and important body, numbering perhaps 3000 or 4000. These gentlemen were of the same professional status as their principals, but in a different position. Personally, he (Dr. Glover) did not think it a dishonourable position, although an old practitioner had recently expressed the opinion that the work of breaking stones or the occupation of a navvy was better than that of a qualified assistant. To be under the eye and to coöperate with a good principal was, he thought, one of the best possible things for a man just entering the profession. At the same time, the position was not a strong one and contained some disadvantages. Firstly, the qualified assistant had to contend with the competition of unqualified assistants, of whom there was a large number in England, especially in the north; secondly, they were a detached body of men, and their position could be strengthened only by organisation, which was, however, costly, and assistants were not rich. There were bodies already existing that had done much to improve the position and status of the qualified assistant. Speaking as a member of the General Medical Council he could assure them that from one-half to one-third of the time of the Council was occupied in dealing with men who employed unqualified assistants. The two medical defence unions had also done much in this direction, and he thought in taking the steps contemplated the meeting should consider how far they ought to go and how far they should combine with the existing organisations of the profession. It would be rash for them to set up as a separate organisation without duly considering the matter. The days of the unqualified assistant were over, and the qualified man should be supported, not only as a duty to the profession, but also as a duty to the public.

Mr. BROCKLEHURST announced that the following gentlemen had, in answer to the letter which appeared in THE LANCET, signified their willingness to join such an association:—Dr. W. R. Fenton, Liverpool; Mr. C. E. Moffatt,

Beverley; Mr. R. J. Farman, Longford; Dr. J. Morgan Rickey, Cork; Mr. A. Rastaub, Essex; Dr. W. Jamison, Dromore; Mr. Whitmore, Rutland; Mr. C. E. Bucknill, London; Dr. Swindells, Essex; Dr. R. L. Shaw, New Mills; Mr. E. C. Drake, Grantham; Dr. J. J. Brown, Grantham; Mr. C. J. A. Coates, Monmouth; Dr. J. W. Oliver, London; Mr. Probyn, London; Mr. W. B. Orme, London; and Dr. Marcus Quarry, London.

Mr. C. LEGG then put before the meeting the various advantages that would accrue from membership, the most important of which was the formation of a central bureau where the status of the assistant and principal could be accurately determined.

On the motion of Mr. W. B. ORME, seconded by Dr. MARCUS QUARRY, it was decided to form a committee to receive communications on the subject and to take any further steps in promoting the association.

With the usual courtesies to the Chairman the meeting was brought to a close.

We are requested to state that the subscription proposed, which is one guinea per annum, should be sent to Mr. T. W. Brocklehurst, 1, Ilchester-villas, Westham, Weymouth, Dorset, or to Mr. C. Legg, 50, Deauville-road, Clapham, London.

CIVIL RIGHTS' DEFENCE COMMITTEE.

WE have received the following report of proceedings in the Anderson appeal case from the Civil Rights' Defence Committee, with a request for its publication:—

The Anderson (Privy Council) Appeals.

The Civil Rights' Defence Committee begs to append a further list of subscribers to the Anderson (Privy Council) Appeal Fund, together with extracts from the minutes of a meeting of the committee of March 1st, 1895.

The committee is much encouraged and strengthened by the action of THE LANCET and of those branches of the British Medical Association which have voted subscriptions from the branch funds in aid of the defence entrusted to it of the professional and public rights involved in Mr. Anderson's appeals and of those branches of the British Medical Association and divisions of the London and Counties' Medical Protection Society and of those gentlemen who have kindly taken charge of lists and collected subscriptions. Time is, however, passing, and a considerable further sum—about £850—is, as has been already stated, necessary for the conduct of these appeals to the Privy Council to a satisfactory issue, and of this at least £100, but to move to the best advantage £150 are required before the special leave to appeal can be applied for. The papers and proceedings up to this stage, including many office copies from, and searches in, Trinidad, have been prepared and taken and paid for out of the funds raised, and there is at present, when all subscriptions promised are received, a balance of £45 available.

If a uniform subscription of 5*s.* could be obtained from one-tenth part of the medical profession of the empire, or of 2*s.* 6*d.* from one-fifth part, or of 1*s.* each from one-half of the profession, the defence of rights declared by all public bodies, journals, and individual members of the profession that have expressed themselves to be essential to the practice and existence of the profession need no longer be left open to question and subject to encroachment.

The committee begs to invite coöperation in organising a general uniform subscription of 5*s.* or 2*s.* 6*d.*, and to appeal to public bodies the committee represents and to the divisions and branches of those bodies to aid in this work and to subscribe such sums as they can devote to it and as will express their sense of the importance to the profession of the rights involved.

Copies of the *interim* report will be sent to branches about to hold meetings and, as far as possible, to the members of those branches, but the committee will be very much obliged if honorary secretaries of, and of branches and divisions of, the bodies represented on the committee and members of the profession willing to assist in the collection of subscriptions will apply for such numbers of copies as they may require.

The Incorporated Medical Practitioners' Association has kindly promised to distribute at the cost of this committee the *interim* report to its members.

In continuing and renewing its appeal the committee conveys to each member of the bodies represented on it the appeal of each of those bodies to its own branches or divisions and to its own members; and, in bringing this application urgently before public bodies and individuals that have not as yet had the appeal brought to their notice, the committee earnestly invites consideration of the several votes adopted and opinions expressed by public bodies and men of high standing in the profession to the effect that, deprived of the rights which Mr. Anderson is defending, the practice of the profession as a means of livelihood would be (as it was rendered to him) impossible, and the position of medical men one of intolerable degradation.

Lord Stamford and the committee feel, therefore, the greatest confidence in appealing to every feeling of public spirit and of personal generosity for the aid necessary to enable Mr. Anderson to bring to a successful issue his difficult and meritorious defence of most valued professional and public rights.

Extract from Minutes of Meeting of March 1st, 1895.

The following extract from the proceedings of the Victoria Branch was laid upon the table:—

"The hon. secretary read a letter received from England, asking for assistance towards the appeal of Mr. Anderson of Trinidad to the Privy Council. An appeal is being made to the Privy Council, and as their decision will be law in this colony members were requested to consider the advisability of the branch voting a sum to assist the appeal.

"An expression of opinion from the branch was also asked for.

"It was resolved to vote £10 10*s.* towards the appeal. The branch also passed the following resolution: 'That it has been the custom in this colony, and the custom meets with the approval of the branch, for medical men when they think fit to demand payment before rendering services.'"

The following resolution of the Yorkshire branch was laid upon the table:—

"The Yorkshire branch of the British Medical Association, feeling that a great injustice has been done to Mr. Anderson, that the matter is of serious importance to the medical profession, and that it sympathises sincerely with Mr. Anderson in his difficulty, hereby resolves to contribute the sum of £10 towards his expenses."

Votes of thanks as follows were unanimously adopted:—

"That the very cordial thanks of the Civil Rights Defence Committee be tendered to the Messrs. Wakley, the Proprietors and Editors of THE LANCET, for their very powerful support and coöperation and appeal to the medical profession and for their very liberal contribution heading a special 'LANCET Fund' for the Anderson Privy Council appeals. To the Halifax (Nova Scotia), Yorkshire, and Victoria branches of the British Medical Association for expressions or resolutions of sympathy and approval and for votes from the funds of those branches to the Anderson (Privy Council) appeals.

"To the councils, secretaries, and members of the Burma, East Anglian, Lancashire, and Cheshire, South Midland, and Gloucestershire branches of the British Medical Association and to the North London and Croydon divisions of the London and Counties' Medical Protection Society for votes and expressions of sympathy, and for having taken charge of lists and raised subscriptions amongst their members.

"To the North of Ireland and Shropshire and Mid-Wales branches of the British Medical Association for their votes and expressions of sympathy with and approval of the work and objects of the committee, and of the defence by Mr. Anderson of the professional and public rights involved in his appeals, and to Dr. Barnes, Dr. C. J. Evans, Dr. J. B. Lawford, Dr. Barr, Mr. Parakh, Dr. Pruen, Dr. Lloyd Smith, Mr. Knaggs, and Mr. Whishaw for their kindly expressions of sympathy and for having taken charge of lists and collected subscriptions."

The following resolutions were unanimously adopted:—

"That a letter with the *interim* report be sent to each branch or division of the bodies represented on the committee and about to hold meetings, and as far as possible also to members of such branches or divisions, inviting their coöperation.

"That it be arranged as early as possible for a deputation, consisting of as many members of the committee as may

accept an invitation to attend, to wait upon the editor of the *Times* and other leading newspapers to invite their aid by advocating a public meeting or otherwise, and in organising a committee and raising funds to enable Mr. Anderson to carry his appeal in the case of Anderson *v.* Gorrie and others on to the House of Lords; and, in the event of failure in such appeal, to carry on the matter with a view to legislation on the subject, and to obtain an indemnity for Mr. Anderson from Parliament; that members of the Civil Rights' Defence Committee be especially urged to attend the deputation; that the president be invited to introduce the deputation; and that Mr. Anderson be invited to state his case.

"That Mr. Anderson's case, and the civil rights involved, be strongly represented to the City Guilds, and that they be asked to take part in a requisition to the Lord Mayor to convene a public meeting at the Mansion House for the purpose of organising a committee and raising funds to enable Mr. Anderson to carry his appeal in Anderson *v.* Gorrie and Others to the House of Lords."

ANDERSON (PRIVY COUNCIL) APPEAL FUND.

Further subscriptions up to Feb. 28th, 1895.

	£	s.	d.
Dr. Barnes, hon. sec., East Anglian Branch of the British Medical Association, collected as per list—			
Mr. C. E. Addison, Colchester	£0	5	0
Dr. E. G. Barnes, Eye	0	5	0
Mr. W. W. Baxter, Manningtree	0	2	6
Dr. M. Beverley, Norwich	0	5	0
Dr. Browne, Ipswich	0	4	0
Dr. T. Carr, Braintree	0	5	0
Dr. F. W. Clark, Lowestoft	0	5	0
Mr. M. J. Doidge, Haverhill	0	5	0
Mr. S. O. Eades, Ipswich	0	5	0
Mr. Branford Edwards Ipswich	0	5	0
Mr. S. Evans, Harwich	0	5	0
Dr. W. F. Fryer, Ipswich	0	5	0
Mr. C. G. Havell, Felixstowe	0	5	0
Dr. G. F. Hulme, Felixstowe	0	5	0
	3	6	6
Dr. James Barr, Liverpool, hon. sec., Lancashire and Cheshire Branch, British Medical Association, collected as per list—			
Dr. James Barr, Liverpool	0	10	0
Dr. W. M. Campbell, Liverpool	0	10	6
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Mr. J. Earle, Manchester	0	10	6
Dr. Massiah, Didsbury	0	10	6
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Mr. G. E. Walker, F.R.C.S., Liverpool	1	1	0
	6	5	0
Mr. C. Biddle, Merthyr Tydfil, per Dr. Greenwood ...	1	1	0
*Dr. T. Bowen, Barbadoes	1	1	0
Mr. H. D. Brook, Fareham, collected as per list—			
Self	0	10	6
Mr. G. H. Case, Fareham	0	10	6
	1	1	0
Messrs. Jonas Brown and Sons, London	1	1	0
C. S. W., per *British Medical Journal*	0	10	6
Mr. Cadge, Norwich	1	1	0
Dr. Cant, Colchester	0	10	6
Dr. Cleveland, London	1	1	0
Mr. Corbin, Guernsey	0	10	6
Surgeon-Major J. R. Dodd, Lucknow	1	1	0
Dr. Dukes, Rugby	1	1	0
Eastbourne Medical Society...	3	3	0
Mr. C. J. Evans	1	1	0
Dr. A. C. E. Harris, Birkenhead	1	1	0
Dr. Huggard, Davos Platz, further subscription ...	1	1	0
*Dr. John Hutson, Barbadoes	1	1	0
Dr. Johnson, British North Borneo	1	1	0
Mr. Keeling, Sheffield	1	1	0
Mr. S. Knaggs, F.R.C.S., Huddersfield, collected as per list—			
Dr. R. C. Brown, Holmfirth	0	10	6
Mr. T. Kilner Clarke, Huddersfield	0	10	6
Mr. L. Demetriadi...	0	5	0
Dr. J. Dickson, Lindley	0	10	6
Mr. A. Donton, Huddersfield	0	10	6
Mr. J. W. Draper, Almondbury	0	10	6
Mr. S. Knaggs, Huddersfield	1	1	0
Mr. W. H. Lord, Huddersfield...	0	10	6
Mr. P. MacGregor, Lockwood	0	10	6
Dr. F. L. Mackenzie, Lockwood	0	10	6
Mr. W. L. W. Marshall, Huddersfield	0	10	6
Dr. J. Martin, Huddersfield	0	10	6
Dr. F. W. Robinson, Huddersfield	0	10	6
Mr. W. Robinson, Huddersfield	0	10	6
Dr. T. Smailes, Honley	0	10	6
	8	2	6
*Mr. J. B. Lawford, London	1	1	0
Collected as per list—			
Mr. James James	1	1	0
Dr. James Taylor	1	1	0
	2	2	0
Mr. Lloyd, Surbiton	0	10	0
Mr. D. MacAllan, London	0	10	6
Mr. Rutherford Morison, Newcastle-on-Tyne	1	1	0
Dr. E. Nash, London, per Dr. Bullock	0	10	0
The Proprietors of THE LANCET	10	0	0
Mr. E. Nettleship, F.R.C.S., London	5	5	0
	15	5	0

	Rs.	£	s.	d.
Mr. N. N. Parakh, hon. sec. Burma Branch of the British Medical Association, as per list:—				
Surgeon-Lieutenant-Colonel J. Backhouse, Rangoon	5			
Surgeon-Lieutenant-Colonel O. Baker	5			
Dr. C. F. Britts	5			
Dr. W. E. Godber	5			
Dr. B. Day	5			
Surgeon-Colonel S. B. Hunt	5			
Brigade-Surgeon-Lieutenant-Colonel H. Johnstone	5			
Mr. N. N. Parakh	5			
Dr. T. F. Pedley	5			
Dr. E. M. de Souza	5			
	50			
Less exchange (£2 5 9)		2	14	3
Dr. S. T. Pruen, hon. sec. Gloucestershire Branch British Medical Association, collected as per list and remitted per Mr. I. A. Cardew:—				
Mr. E. D. Bower, Gloucester		1	1	0
Mr. W. R. Buckell, Cheltenham		1	1	0
Mr. O. H. Fowler, Cirencester...		1	1	0
Dr. S. T. Pruen, Cheltenham		0	10	6
Dr. G. T. B. Watters, Stonehouse		1	1	0
Dr. E. T. Wilson, Cheltenham		0	10	6
		5	5	0
Mr. A. B. Smith:—				
Halifax Branch of the British Medical Association, vote from funds		2	0	0
Dr. Lloyd G. Smith, hon. sec. North London Division of the London and Counties Medical Protection Society, collected as per list:—				
Mr. E. Hooper May, F.R.C.S., London	0	5	0	
Dr. Lloyd G. Smith, London	0	5	0	
Dr. A. O. Ward, London	0	5	0	
		0	15	0
Surg.-Capt. Spong, A.M.S., Egypt (two subscriptions)		2	2	0
Mr. R. R. Whishaw, F.R.C.S., hon. sec. Croydon Division of the London and Counties Medical Protection Society:—				
Dr. H. J. Cooper, Croydon	0	5	0	
Mr. H. W. Drew, Croydon	0	5	0	
Dr. P. T. Duncan, Croydon	0	5	0	
Dr. C. W. Philpot, Croydon	0	5	0	
Dr. W. Rosser, Croydon...	0	5	0	
Dr. S. Parsons Smith, Croydon	0	5	0	
Dr. H. G. Thompson, Croydon	0	5	0	
Mr. R. R. Whishaw, Croydon...	0	5	0	
		2	0	0
*Dr. J. A. Wegg, Jamaica		1	1	0
Mr. Wilkinson, Salop		1	1	0
Yorkshire Branch of the B.M.A., vote from funds of Branch		10	0	0
Victoria Branch of B.M.A., vote from funds of Branch		10	10	0

* The Committee regrets that these were accidentally omitted in previous lists, having been received the day before the issue of the list of Aug. 24th. The Committee will be much obliged if subscribers will call attention to any such omissions.

Cheques and postal orders should be crossed and made payable to the Anderson Appeal Fund Account, and forwarded to the Manager of the Chancery-lane Branch of the Union Bank, Chancery-lane, London, W.C.

Public Health and Poor Law.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

Stockport Urban Sanitary District.—Dr. Charles Porter, in dealing in his annual report for 1893 with the important question of infantile mortality—which, by the way, was in Stockport as high as 225 per 1000 births in 1893—makes a very interesting analysis of the returns of his district for the last five years. The main conclusions are these: the number of deaths on the first day of life is three times greater than in any succeeding day; the total number of deaths during the first week of life constitutes more than half the deaths in the first month; and the infantile mortality of the first month is nearly double that of any other month. The drift of the conclusions agrees with those given in the fifty-fourth annual report of the Registrar-General, where the distribution of mortality over the first year of life was very clearly set forth. We notice, too, in the Stockport figures that there was, as in the analysis of the Registrar-General, an arrest of diminishing mortality in the third week of life. In discussing the causes of infantile mortality Dr. Porter points out how important a factor the employment of women during the latter months of pregnancy is in producing mortality from prematurity and low vitality at birth; and he also refers to the manner in which the female workers' children are exposed in their travels to and from the caretakers' houses, thus increasing the mortality from respiratory diseases. Dr. Porter dilates upon the necessary remedial measures, and he

urges that it is more desirable to prevent female mill labour during the latter months of pregnancy than to extend the period of prohibition after confinement to three months. The existing law as regards female labour is, he considers, almost a dead letter, inasmuch as the employers are, as a general rule, ignorant of confinements amongst their employées. As a remedy he suggests the compulsory notification of birth to the employers, together with prompter registration, and the necessity for provision of properly regulated crêches. The death-rate from enteric fever in Stockport during 1893 was 0·67 per 1000, as compared with 0·24 for the thirty-three large towns; and from a study of statistics for past years Dr. Porter concludes that the disease is, to a large extent, endemic in Stockport. In reference to the prevalence of this disease in Stockport during 1893 he supplies a capital chart, which brings out well the apparent relationship of the disease to the temperature of the earth at a depth of four feet and to the diarrhœal mortality. It seems, too, in regard to locality, that the distribution of typhoid fever and diarrhœa were in large part identical. There were 80 cases with 32 deaths from diphtheria in Stockport during 1893, numbers much in excess of previous years. Dr. Porter goes, too, very exhaustively into the distribution of the cases, and concludes, amongst other things, that the three parts of the town most affected were those built on basins of sand in which natural drainage was interfered with in 1893 owing to the configuration of the subjacent boulder clay and the unusual lowering of the ground water. In indicating the lines of future action in Stockport Dr. Porter insists upon the very great importance of converting the privy midden to the water carriage system; in fact, it would be almost impossible, he states, to overestimate the danger to health resulting from the existing privies, which pollute the air and soil, and are beds for the development of disease germs.

St. George-the-Martyr, Southwark, Urban Sanitary District.—Dr. F. J. Waldo, in his annual report for 1893, again refers to the important part played by unregulated Salvation Army and other shelters in the dissemination of small-pox; and in illustration of this he supplies the following table, taken from Dr. Long's report to the Metropolitan Asylums Board, showing the number of patients admitted to the hospital ships who traced their infection to various shelters:—

—	December, 1892.	January, 1893.	February.	March.	April.	May.	June.	July.	Totals.
Salvation Army shelters:—									
(*a*) Blackfriars — St. George's Southwark	—	—	3	3	6	16	3	—	31
(*b*) Lisson-grove, Edgware-rd., Marylebone	3	2	3	8	11	5	—	—	32
(*c*) Horseferry-rd., Westminster	—	—	1	7	5	1	—	—	14
(*d*) Others...	1	2	5	6	8	—	1	—	23
Free shelters generally ...	—	1	4	2	3	—	—	—	10
Totals	4	5	16	26	33	22	4	—	110

Dr. Waldo adds that in so far as the south of London is concerned he estimates that small-pox was spread in 1893 by the Blackfriars shelter to a much greater extent than the figures in Dr. Long's table appear to warrant; and he repeats his recommendation that Salvation Army and other shelters should be under the same restrictions as common lodging houses. The shelter with which Dr. Waldo is more particularly concerned has, he states, been recently enlarged so as to accommodate 500 persons in the 1*d.* division, 288 in the 2*d.* bunk dormitory, and 40 in the 3*d.* cubicle dormitory. The minimum cubic space allotted to each adult in the 1*d.* division is 90 cubic feet and 6 superficial feet, allowances which, as he points out, contrast most unfavourably with common lodging-houses, workhouses, and barracks. In referring to the carrying out of the Vaccination Acts in his district, Dr. Waldo, who was apparently unable to obtain any returns as regards vaccination from the guardians, states on information derived from other sources that in no single instance during 1892 and 1893 have the guardians in question instructed their vaccination officer to prosecute defaulters; and it appears from the returns of the vaccination officer that in the year referred to there were 13·3 and 15·3 per cent. of the births not finally accounted for in respect to vaccination. As Dr. Waldo aptly remarks, the interim recommendation of the Vaccination Commission in no way absolves boards of guardians from discharging their duties under the Vaccination Acts. During 1893 he examined the water cisterns of certain model dwellings in his district. He discovered them to be "for the most part on the roofs, often imperfectly covered in, and in most cases within a few feet of the opening of the soil-pipe ventilation." In the appendix to his report Dr. Waldo reproduces the paper which he read in February, 1894, before the Sanitary Institute on the retail bakehouses of his district, which, with the discussion on it, is well worth reading.

Stretford Urban Sanitary District.—Mr. W. John Heslop reports that the death-rate of his district for 1894 was the lowest yet recorded—i.e., 13 per 1000. Measles has been added to the list of diseases notifiable in Stretford, but Mr. Heslop is apparently reserving his judgment as to its utility. The Manchester Ship Canal is reported to have been very offensive during the summer months in so far as it affects Stretford.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

In thirty-three of the largest English towns 6625 births and 7117 deaths were registered during the week ending March 9th. The annual rate of mortality in these towns, which had increased in the six preceding weeks from 18·7 to 32·9 per 1000, further rose last week to 35·0. In London the rate was as high as 41·2 per 1000, while it averaged 30·7 in the thirty-two provincial towns. The lowest rates in these towns were 16·1 in Derby, 19·2 in Blackburn, 19·6 in Leicester, 21·0 in Swansea, and 21·5 in Birmingham; the highest rates were 40·1 in Brighton, 41·2 in London, 42·8 in Halifax, 45·2 in Leicester, and 48·0 in Plymouth. The 7117 deaths included 339 which were referred to the principal zymotic diseases, against 317 and 330 in the two preceding weeks; of these, 111 resulted from whooping-cough, 73 from measles, 62 from diphtheria, 39 from diarrhœa, 30 from "fever" (principally enteric), 23 from scarlet fever, and 1 from small-pox. No fatal case of any of these diseases was recorded last week in Blackburn; in the other towns they caused the lowest death-rates in West Ham, Croydon, Huddersfield, Gateshead, and Leicester; and the highest rates in Manchester, Salford, Bolton, and Newcastle-upon-Tyne. The greatest mortality from measles occurred in Plymouth, Bolton, Manchester, Sheffield, and Newcastle-upon-Tyne; and from whooping-cough in Norwich, Oldham, and Halifax. The mortality from scarlet fever and from "fever" showed no marked excess in any of the large towns. The 62 deaths from diphtheria included 34 in London, 6 in Liverpool, 4 in Birkenhead, 3 in Salford, and 3 in Birmingham. A fatal case of small-pox was registered in Derby, but not one in London or in any other of the thirty-three large towns. There were 54 cases of small-pox under treatment in the Metropolitan Asylum Hospitals on Saturday last, the 9th inst., against 67, 75, and 68 at the end of the three preceding weeks; 8 new cases were admitted during the week, against 18, 19, and 8 in the three preceding weeks. The number of scarlet fever patients in the Metropolitan Asylum Hospitals and in the London Fever Hospital at the end of the week was 1619, against 1657, 1658, and 1621 on the three preceding Saturdays; 141 new cases were admitted during the week, against 159, 152, and 143 in the three preceding weeks. The deaths referred to diseases of the respiratory organs in London, which had increased from 324 to 1443 in the six preceding weeks, were 1366 last week, and were as many as 842 above the corrected average. The causes of 126, or 1·8 per cent., of the deaths in the thirty-three towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Nottingham, Oldham, Bradford, Leeds, and in seven other smaller towns; the largest proportions of uncertified deaths were registered in Brighton, Birmingham, Leicester, and Hull.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had increased from 23·9 to 42·8 per 1000 in the five preceding weeks, declined to 40·9 last week, but was 5·9 per 1000 above the mean rate during the same period in the thirty-three large English towns. The rates in the eight

Scotch towns ranged from 28·5 in Greenock and 30·9 in Perth to 43·9 in Glasgow and 44·5 in Edinburgh. The 1180 deaths in these towns included 72 which were referred to measles, 39 to whooping-cough, 14 to diarrhœa, 8 to diphtheria, 6 to scarlet fever, 3 to small-pox, and 2 to "fever." In all, 144 deaths resulted from these principal zymotic diseases, against 113 and 115 in the two preceding weeks. These 144 deaths were equal to an annual rate of 5·0 per 1000, which was 3·3 above the mean rate last week from the same diseases in the thirty-three large English towns. The fatal cases of measles, which had been 54 and 51 in the two preceding weeks, rose again to 72 last week, of which 30 occurred in Edinburgh, 20 in Aberdeen, 11 in Glasgow, and 7 in Leith. The deaths referred to whooping-cough, which had been 36 and 30 in the preceding two weeks, increased to 39 last week, and included 31 in Glasgow. The 8 fatal cases of diphtheria exceeded the number recorded in any recent week, and included 3 in Edinburgh and 2 in Aberdeen. The deaths from scarlet fever, which had been 4 and 10 in the two preceding weeks, declined to 6 last week, of which 4 occurred in Glasgow. Of the 3 fatal cases of small-pox 2 were registered in Edinburgh and 1 in Glasgow. The deaths referred to diseases of the respiratory organs in these towns, which had been 345, 517, and 544 in the three preceding weeks, declined to 463 last week, but exceeded by as many as 350 the number in the corresponding week of last year. The causes of 82, or nearly 7 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 35·1 and 32·7 per 1000 in the two preceding weeks, rose again to 48·8 during the week ending March 9th. During the past ten weeks of the current quarter the death-rate in the city has averaged 34·6 per 1000, against 25·7 in London and 28·6 in Edinburgh. The 327 deaths registered in Dublin during the week under notice showed an increase of 108 upon the number in the previous week, and included 14 which were referred to the principal zymotic diseases, against numbers declining from 19 to 6 in the four preceding weeks; of these, 5 resulted from small-pox, 5 from "fever," 3 from whooping-cough, 1 from diarrhœa, and not one either from measles, scarlet fever, or diphtheria. These 14 deaths were equal to an annual rate of 2·1 per 1000, the zymotic death-rate during the same period being 1·7 in London and 7·6 in Edinburgh. The fatal cases of small-pox, which had declined from 6 to 4 in the three preceding weeks, rose again to 5 last week. The 5 deaths referred to "fever" were all certified as enteric, and exceeded the number recorded in any recent week. The 3 fatal cases of whooping-cough also exceeded recent weekly numbers. The 327 deaths in Dublin last week included 64 of infants under one year of age, and 112 of persons aged upwards of sixty years; the deaths both of infants and of elderly persons exceeded those recorded in any recent week. Four inquest cases and 4 deaths from violence were registered; and 108, or nearly a third, of the deaths occurred in public institutions. The causes of 28, or more than 8 per cent., of the deaths in the city last week were not certified.

VITAL STATISTICS OF LONDON DURING FEBRUARY, 1895.

IN the accompanying table will be found summarised complete statistics relating to sickness and mortality during February in each of the forty-three sanitary areas of London. With regard to the notified cases of infectious diseases in the metropolis during last month, it appears that the number of persons reported to be suffering from one or other of the nine diseases specified in the table was equal to 5·9 per 1000 of the population, estimated at 4,392,346 persons in the middle of this year. In the three preceding months the rates had been 9·5, 8·4, and 7·0 per 1000 respectively. Among the various sanitary areas the rates were considerably below the average in Hammersmith, Westminster, St. Martin-in-the-Fields, Strand, City of London, and St. Saviour Southwark; while they showed the largest excess in Marylebone, Islington, St. Luke, Limehouse, Rotherhithe, and Greenwich. The prevalence of small-pox in London showed a slight increase during February, 48 cases being notified during the month, including 34 in Marylebone and 3 in Holborn sanitary areas. The Metropolitan Asylum Hospitals contained 66 small-pox patients at the end of February, against 16 and 51 at the end of the two preceding months; the weekly admissions averaged 15, against 3 and 10 in the two preceding months. The prevalence of scarlet fever in London showed a slight increase upon that recorded in January; this disease was proportionally most prevalent in Hampstead, Islington, St. Luke, Limehouse, Mile End Old Town, Rotherhithe, Greenwich, and Plumstead sanitary areas. The Metropolitan Asylum Hospitals contained 1569 scarlet fever patients at the end of February, against 2114, 1865, and 1633 at the end of the three preceding months; the weekly admissions averaged 141, against 208, 171, and 148 in the three preceding months. The prevalence of diphtheria in London showed a marked further decline during February; among the various sanitary areas this disease showed the highest proportional prevalence in Holborn, Bethnal-green, Limehouse, Poplar, Camberwell, Greenwich, and Plumstead. There were 461 cases of diphtheria under treatment in the Metropolitan Asylum hospitals at the end of February, against 517, 521, and 515 at the end of the three preceding months; the weekly admissions averaged 50, against 90, 93, and 71 in the three preceding months. The prevalence of enteric fever in London also showed a marked decline during the month under notice; among the various sanitary districts this disease showed the highest proportional prevalence in St. Luke, Bermondsey, and Battersea sanitary areas. Erysipelas was proportionally most prevalent in Hackney, Bethnal-green, Battersea, Wandsworth, and Plumstead sanitary areas. The 12 cases of puerperal fever notified during February included 3 in Camberwell and 2 in Poplar sanitary areas.

The mortality statistics in the accompanying table relate to the deaths of persons actually belonging to the various metropolitan sanitary areas, the deaths occurring in the institutions of London having been distributed among the different sanitary areas in which the patients had previously resided. During the four weeks ending Saturday, March 2nd, the deaths of 10,205 persons belonging to London were registered, equal to an annual rate of 30·3 per 1000, against 15·2, 17·7, and 18·3 in the three preceding months. This exceptionally high rate was principally due to the epidemic prevalence of influenza. The lowest death-rates during February in the various sanitary areas were 16·6 in Hampstead, 19·3 in Plumstead, 19·5 in Lee, 21·9 in Woolwich, 22·0 in Lewisham (excluding Penge), 22·9 in Stoke Newington, and 23·6 in Hackney; the highest rates were 38·8 in St. Saviour Southwark and in Newington, 39·0 in Limehouse, 39·7 in Marylebone, 39·8 in Westminster and in St. George-in-the-East, 42·7 in Strand, 43·6 in St. Giles, and 49·3 in St. Luke. During the four weeks of February 514 deaths were referred to the principal zymotic diseases in London; of these, 172 resulted from whooping-cough, 119 from diphtheria, 90 from measles, 50 from scarlet fever, 44 from diarrhœa, 32 from enteric fever, 1 from an ill-defined form of "fever," and 6 from small-pox. These 514 deaths were equal to an annual rate of 1·5 per 1000, against 1·8 and 1·6 in the two preceding months. No fatal case of any of these diseases was recorded last month in St. Olave Southwark; in the other sanitary areas they caused the lowest death-rates in Kensington, Fulham, Westminster, St. James Westminster, Whitechapel, and Wandsworth; and the highest rates in St. Pancras, St. Giles, Clerkenwell, Limehouse, Poplar, and Battersea. Six fatal cases of small-pox were registered in London during the month under notice, the corrected average in the corresponding periods of the ten preceding years being 12; of these 6 deaths, 5 belonged to Marylebone and 1 to Newington sanitary areas. The 90 deaths referred to measles were 53 below the corrected average number; among the various sanitary areas this disease showed the highest proportional fatality in Holborn, Shoreditch, Poplar, and Lee. The 50 fatal cases of scarlet fever were 19 below the corrected average number; the mortality from this disease showed no marked excess last month in any of the sanitary areas. The 19 deaths from diphtheria were slightly below the corrected average number; among the various sanitary areas this disease showed the highest proportional fatality in Limehouse, Poplar, Camberwell, and Greenwich. The 172 fatal cases of whooping-cough were as many as 128 below the corrected average number; this disease showed the highest proportional fatality in St. Pancras, St. Giles, Clerkenwell, and Limehouse sanitary areas. The 32 deaths referred to enteric fever were within 3 of the corrected average number; there was no marked excess of "fever" mortality last month in

MONTHLY ANALYSIS OF SICKNESS AND MORTALITY STATISTICS IN LONDON—FEBRUARY, 1895.

(Specially compiled for THE LANCET.)

Sanitary areas.	Estimated population in the middle of 1895.	Notified Cases of Infectious Disease.										Deaths from Principal Infectious Diseases.										Deaths from all causes.	Death-rate per 1000 living.	Deaths of infants under one year to 1000 births.
		Small-pox.	Scarlet fever.	Diphtheria.*	Typhus fever.	Enteric fever.	Other continued fevers.	Puerperal fever.	Erysipelas.	Cholera.	Total.	Annual rate per 1000 persons living.	Small-pox.	Measles.	Scarlet fever.	Diphtheria.†	Whooping-cough.	Typhus fever.	Enteric fever.	Other continued fevers.	Diarrhœa.	Total.	Annual rate per 1000 persons living.			
LONDON	**4,382,346**	**43**	**957**	**463**	**—**	**125**	**3**	**12**	**380**	**—**	**1983**	**5·9**	**6**	**90**	**50**	**119**	**172**	**—**	**32**	**1**	**44**	**514**	**1·5**	**10,205**	**30·3**	**169**
West Districts.																										
Paddington	122,756	1	24	9	—	2	—	—	2	—	38	4·0	—	3	2	3	1	—	—	—	1	10	1·1	267	28·4	162
Kensington	167,671	1	24	15	—	4	1	1	12	—	58	4·5	—	2	1	1	2	—	3	—	1	10	0·8	364	28·3	173
Hammersmith	108,429	—	12	6	—	1	—	—	3	—	22	2·6	—	—	1	2	7	—	—	—	1	11	1·3	212	25·5	202
Fulham	117,745	—	18	14	—	4	—	1	6	—	43	4·8	—	—	3	2	1	—	1	—	—	7	0·8	268	29·7	205
Chelsea	99,930	—	16	12	—	2	—	1	6	—	37	4·8	—	—	1	1	3	—	—	—	—	5	0·7	257	33·5	171
St. George Hanover-square	74,037	—	9	6	—	2	—	—	4	—	21	3·7	—	—	1	1	5	—	—	—	—	7	1·2	174	30·6	195
Westminster	54,003	—	8	1	—	2	—	—	—	—	11	2·7	—	—	—	—	1	—	—	—	—	1	0·2	165	39·8	193
St. James Westminster	23,149	—	4	2	—	—	—	—	—	—	6	3·4	—	—	—	—	1	—	—	—	—	1	0·6	61	34·4	125
North Districts.																										
Marylebone	137,392	34	27	7	—	5	1	—	16	—	90	8·5	5	1	3	1	7	—	1	1	—	19	1·8	418	39·7	164
Hampstead	77,592	—	35	3	—	3	—	—	5	—	46	7·7	—	1	1	1	—	—	2	—	2	7	1·2	99	16·6	172
St. Pancras	233,543	1	56	27	—	6	—	—	29	—	119	6·6	—	2	4	9	20	—	2	—	6	43	2·4	574	32·0	182
Islington	335,929	—	183	25	—	5	—	1	23	—	237	9·2	—	5	7	7	12	—	3	—	2	36	1·4	738	28·6	132
Stoke Newington	35,234	—	10	1	—	2	—	—	3	—	16	5·9	—	—	—	—	2	—	2	—	—	4	1·5	62	22·9	75
Hackney	215,423	—	30	20	—	3	—	—	30	—	83	5·0	—	4	3	5	10	—	2	—	1	25	1·5	391	23·6	127
Central Districts.																										
St. Giles	37,654	—	3	3	—	1	—	—	5	—	12	4·2	—	2	—	1	3	—	—	—	—	6	2·1	126	43·6	254
St. Martin-in-the-Fields	13,526	—	1	1	—	1	—	—	—	—	3	2·9	—	—	—	—	1	—	—	—	—	1	1·0	27	26·0	182
Strand	22,586	—	1	2	—	—	—	—	1	—	4	2·3	—	—	—	—	1	—	1	—	1	3	1·7	74	42·7	256
Holborn	32,188	3	5	5	—	2	—	—	4	—	19	7·7	—	4	—	1	—	—	—	—	—	5	2·9	93	37·7	262
Clerkenwell	65,036	—	13	8	—	3	—	—	6	—	30	6·0	—	—	1	2	8	—	—	—	—	11	2·2	154	30·9	223
St. Luke	40,763	—	13	5	—	3	—	—	5	—	26	8·3	—	—	—	2	3	—	1	—	—	6	1·9	154	49·3	200
City of London	33,624	—	2	3	—	—	—	—	1	—	6	2·3	—	1	—	1	1	—	2	—	—	5	1·9	91	35·1	200
East Districts.																										
Shoreditch	122,932	—	19	5	—	3	—	—	13	—	40	4·2	—	8	—	1	9	—	1	—	—	19	2·0	329	34·9	196
Bethnal Green	130,661	—	21	22	—	3	—	—	18	—	64	6·4	—	1	1	2	5	—	1	—	1	11	1·1	252	28·3	160
Whitechapel	75,820	—	11	10	—	2	—	—	9	—	32	5·5	—	—	—	1	2	—	—	—	—	3	0·5	188	32·3	301
St. George-in-the-East	45,227	1	5	6	—	2	—	—	3	—	17	4·9	—	3	—	1	3	—	—	—	—	7	2·0	138	39·8	201
Limehouse	56,585	—	24	12	—	1	—	—	2	—	39	8·9	—	2	1	5	7	—	—	—	2	17	3·9	170	39·0	167
Mile End Old Town	108,443	2	34	13	—	1	—	—	11	—	61	7·3	—	5	1	3	3	—	—	—	—	12	1·4	277	33·3	159
Poplar	171,230	—	44	31	—	3	1	2	19	—	100	7·6	—	15	1	12	8	—	1	—	2	39	3·0	444	33·8	180
South Districts.																										
St. Saviour Southwark	26,570	—	3	2	—	—	—	—	—	—	5	2·5	—	—	—	1	1	—	—	—	—	2	1·0	79	38·8	187
St. George Southwark	60,168	—	12	9	—	1	—	—	1	—	23	5·0	—	—	2	1	1	—	—	—	—	4	0·9	173	37·5	221
Newington	119,358	1	22	9	—	5	—	1	11	—	49	5·4	1	1	2	1	3	—	—	—	5	13	1·4	355	38·8	218
St. Olave Southwark	13,065	—	3	—	—	—	—	—	—	—	3	3·0	—	—	—	—	—	—	—	—	—	—	—	37	36·9	314
Bermondsey	85,861	—	15	3	—	5	—	—	4	—	27	4·2	—	1	1	1	2	—	1	—	3	9	1·4	200	31·1	130
Rotherhithe	40,713	—	23	5	—	1	—	—	6	—	35	11·2	—	—	1	—	1	—	1	—	1	4	1·3	87	27·9	183
Lambeth	284,553	1	44	18	—	7	—	—	15	—	85	3·9	—	1	1	4	18	—	1	—	5	30	1·4	717	32·8	187
Battersea	165,130	—	29	21	—	12	—	—	24	—	84	6·6	—	9	2	8	9	—	2	—	3	33	2·6	383	30·2	230
Wandsworth	185,356	—	23	14	—	9	—	1	25	—	72	5·0	—	3	2	4	1	—	—	—	2	12	0·8	364	25·5	140
Camberwell	282,737	1	28	44	—	12	—	3	23	—	111	5·7	—	1	3	15	4	—	—	—	3	28	1·4	515	26·6	145
Greenwich	175,183	2	52	39	—	4	—	1	17	—	115	8·6	—	6	2	12	4	—	2	—	1	27	2·0	338	25·2	118
Lewisham (excluding Penge)	82,419	—	8	4	—	1	—	—	8	—	21	3·3	—	2	1	2	3	—	—	—	—	8	1·3	139	22·0	115
Woolwich	42,768	—	7	1	—	—	—	—	2	—	10	3·0	—	1	—	1	—	—	—	—	1	3	0·9	72	21·9	191
Lee	38,632	—	9	3	—	1	—	—	2	—	15	5·0	—	3	—	—	—	—	—	—	—	3	1·0	58	19·5	111
Plumstead	61,494	—	27	15	—	1	—	—	8	—	51	10·8	—	3	—	4	—	—	—	—	—	7	1·5	91	19·3	146
Port of London	—	—	—	2	—	—	—	—	—	—	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

* Including 37 cases of membranous croup.

† Including deaths from membranous croup.

any of the sanitary districts. The 44 deaths from diarrhœa were 14 below the corrected average number. In conclusion, it may be stated that the mortality in London during the month under notice from these principal zymotic diseases was nearly 30 per cent. below the average.

Infant mortality in London during February, measured by the proportion of deaths under one year of age to registered births, was equal to 169 per 1000, and was considerably above the average. Among the various sanitary areas the lowest rates of infant mortality were recorded in St. James Westminster, Stoke Newington, Hackney, Greenwich, Lewisham, and Lee; and the highest rates in St. Giles, Strand, Holborn, Whitechapel, St. Olave Southwark, and Battersea.

THE SERVICES.

MOVEMENTS OF THE MEDICAL STAFF.

THE following officers have arrived from India in the *Victoria*:—Surgeon-Lieutenant-Colonel Cleery Surgeon-Major Bourke and Surgeon-Captains Griffiths and Morris. Surgeon-Captain Hope has arrived from Malta and Surgeon-Major Sharpe from West Africa. The arrival of the following officers at the stations given against their names is reported:—Surgeon-Major Babtie and Surgeon-Captain Burnside, Malta; Surgeon-Major Clements, West Africa; Surgeon-Major Sloggett and Surgeon-Captain Mathias, Egypt. Surgeon-Major Webb has been posted to the Western district on return from foreign service; Surgeon-Major Ryan to Aldershot. Surgeon-Captain Moffatt has been transferred from Cyprus to Egypt, Surgeon-Lieutenant Collins from the Western district to Cork, and Surgeon-Major Pike has been posted to Ireland after a tour of service abroad.

ARMY MEDICAL STAFF.

Surgeon-Captain Alfred Wright is seconded for service with the Cape of Good Hope Colonial Medical Service.

INDIA AND THE INDIAN MEDICAL SERVICE.

The following appointments are announced:—Surgeon-Captain B. C. Oldham on being relieved of his appointment as Officiating Deputy Sanitary Commissioner, Metropolitan and Eastern Bengal Circle, is appointed to do general duty at the Presidency. Surgeon-Captain Narendra Prasanna Sinha, on being relieved of his appointment as Officiating Civil Surgeon of Jessore, is appointed to act as Deputy Sanitary Commissioner, Metropolitan and Eastern Bengal Circle, during the absence on deputation of Surgeon-Captain D. M. Moir, or until further orders. Brigade-Surgeon-Lieutenant-Colonel A. Cameron, Civil Surgeon, on return from leave, is posted to the Benares district. Surgeon-Major G. A. Emerson, Civil Surgeon, on return from leave, is posted to the Fatehpur district. Surgeon-Lieutenant-Colonel H. Allison, Professor of Anatomy, Medical College, Madras, is granted furlough out of India for one year. Brigade-Surgeon-Lieutenant-Colonel Moore, A.M.S., to remain in England till June 16th, on medical certificate, in extension. Surgeon-Lieutenant-Colonel Frederick Augustus Smyth to be Brigade-Surgeon-Lieutenant-Colonel, vice Brigade-Surgeon-Lieutenant-Colonel W. R. Hooper, retired.

NAVAL MEDICAL SERVICE.

Fleet-Surgeon Charles Lyon Vasey has been placed on the Retired List of his rank.

The following appointments are notified:—Staff-Surgeons: T. J. Crowley to the *Barham*; J. O'B. Williams to the *Terror*; A. M. French to the *Tourmaline*; J. B. B. Triggs to the *Boscawen*; G. D. Twigg to the *Canada*; and G. F. Wales to the *Thunderer*. Surgeons: G. T. S. Sichel to Haslar Hospital; A. H. H. Vizard to the *Excellent*, additional; O. S. Fisher to Jamaica Hospital; C. L. W. Bunton to the *Humber*; H. B. Beatty to the *Impregnable*; E. T. P. Eames to the *Wildfire*; Bernard Ley to the *Victory*; T. T. Jeans to the *Racer*; J. A. L. Campbell to the *Vivid*; W. B. Macleod to the *Sealark*; W. G. Peck to the *Pilot*; H. Spicer to the *Martin*; H. P. Jones to the *Seaflower*; F. F. Mahon to the *Liberty*; R. H. Way to the *Nautilus*; W. H. S. Stalkartt to the *Edinburgh*; and A. G. W. Bowen to the *Partridge*.

ARMY MEDICAL RESERVE OF OFFICERS.

Surgeon-Captain Joseph Willoughby Hodgson, 1st Devonshire Volunteer Artillery (Western Division, Royal Artillery), to be Surgeon-Captain. Surgeon-Lieutenant Percival Macleod Yearsley, 16th Middlesex Volunteer Rifle Corps, to be Surgeon-Lieutenant.

VOLUNTEER CORPS.

The Queen's Rifle Volunteer Brigade the Royal Scots (Lothian Regiment): John Pirie, to be Surgeon-Lieutenant. 1st (City of Dundee) Volunteer Battalion the Black Watch (Royal Highlanders): Surgeon-Captain C. Templeman resigns his commission. 2nd Volunteer Battalion the Essex Regiment: Surgeon-Major C. E. Abbott resigns his commission; also is permitted to retain his rank and to continue to wear the uniform of the battalion on his retirement.

THE EPIDEMIC OF MEASLES ON BOARD THE "BRITANNIA."

The amount of sickness on board the training-ship *Britannia* has been made the subject of considerable correspondence in the press, but with the figures before us it seems that some of the reports have been unduly sensational, although there can be no doubt that the denizens of the training-ship have been passing through a severe epidemic. On Feb. 2nd the first case of measles occurred in the person of a cadet, who brought the infection back with him from his home. He was at once isolated in sick quarters, and the usual means were taken to prevent a spread of the disease. the mischief, however, was done, for the next cases appeared in the persons of the cadets whose quarters were on either side of the first case, and from this focus the fever spread until by Feb. 22nd 51 cases were under treatment. These 51 cases represent the extent of the epidemic, and no further case has occurred since that date. As an indication of the severity of the epidemic it should be remembered that the number of cadets is 269, the ship's company numbering 220 more, so that 20 per cent. of the lads have been attacked. From the beginning systematic inspection was in no way relaxed, but the epidemic was of a severe type, the later cases particularly manifesting a great tendency to pulmonary affection. When the severity of the February we have just gone through is remembered it is not surprising that pneumonia should have appeared, and in severe form, while in a large proportion of cases the patients were suffering from catarrh before receiving the poison of measles. Three deaths have occurred, and in two of these at least a predisposing tendency to the fatal issue was present. The first fatal case occurred in the person of an English native of Jamaica, who had recently joined the training-ship, and who might be supposed to be very susceptible to the severity of an English winter, and such a winter. This poor boy died of acute meningitis. The second death occurred in the person of a senior cadet who had suffered in the previous year from rheumatic fever which had left behind it cardiac mischief. The third fatal case succumbed to acute capillary bronchitis. The Medical Department of the Navy has shown throughout a laudable anxiety to discharge its duty towards its young charges, and neither pains nor expense have been spared to remedy and arrest the evil. In addition to the permanent sick quarters on shore temporary hospitals have been formed in the gymnasiums and other places, the medical staff of the *Britannia* has been increased, and nursing assistance obtained from the Plymouth Hospital. A convalescent home has also been obtained at Kingswear for the accommodation of the cadets, and elaborate precautions taken for complete disinfection. We note with particular approbation the provision of a convalescent home on shore; for, while a ship affords an appropriate place for the education of the future officers of the Navy, it must not be forgotten that ships are more likely to become unhygienic and unhealthy by long occupation than are buildings. But the Director-General, in his report on the epidemic to Lord Spencer—a report in which the First Lord and his colleagues concurred—uses the following words: "The sanitary condition of the *Britannia* is excellent, and the ventilation of the living and sleeping decks occupied by the cadets leaves nothing to be desired." This direct testimony to the hygienic condition of the *Britannia* is very reassuring.

ARMY RECRUITING IN 1894.

The Inspector-General for Recruiting, in his report for 1894, says: "The medical inspections have been generally very strictly carried out. The number of recruits who have been passed into the service with diseases or ailments that might have been detected at the medical examination is

exceedingly small when compared with the number examined, which shows that the medical officers have performed this important, and in some places where large numbers of recruits are examined arduous, duty with care and ability." In the course of the year 61 985 men offered themselves for medical examination, and of these 40·3 per cent. were rejected. In another part of the report it is stated that "the establishment of the Medical Staff Corps is 2478 non-commissioned officers and men. This is a popular corps and easily recruited. It is somewhat over establishment."

GAOL SANITATION.

The *Times of India*, referring to the recently issued report of the Sanitary Commissioner with the Government of India, says that there were less sickness and mortality in the Indian gaols in 1893 than at any time during the past twenty years. The year was distinguished by a large decrease in mortality generally and by a marked decline in that from cholera, fever, and small-pox. The ratio of admissions into hospital had also fallen greatly. The Sanitary Commissioner states that the death-rate of 25 per 1000 for the year is the lowest of which he can find record. The complete statistics for all the gaols have only been recorded since 1877, when the mortality was 62 per 1000, the deaths from dysentery and diarrhœa alone being 26 per 1000, whereas they are now less than 7 per 1000.

THE FEMALE HOSPITAL AT BENARES.

Some years ago a large and handsome hospital for females was built at Benares by public subscription, at a cost of 30,000 rupees, in memory of the late Maharaja of Benares. The expenditure on the maintenance of this institution has, however, usually exceeded its income. The present Maharaja, who largely subscribed to found the hospital, has now guaranteed a monthly subscription in its support equal to an endowment of a lakh of rupees, and the maintenance of an extremely useful and philanthropic institution will thus be secured to the population for a long time to come.

QUETTA DISTRICT.

The principal medical officer of the Quetta district has forwarded a report to the military authorities on the sanitary condition of the town of Quetta, in which he calls attention to the insanitary and dirty state of the narrow streets and yards, and to the overcrowding which exists—more especially in the Babu Mohalla quarter. The condition of the town and neglect of surface cleanliness are apparently such that, unless precautions be adopted, a probable outbreak of epidemic disease is anticipated.

NEW WATER SUPPLY AT MEERUT.

The scheme for a water-supply for Meerut, which has been long talked of and is much wanted, has now been completed, and it is expected that work will be begun at an early date. The proposal is to supply at first ten gallons a head, to be increased subsequently to fifteen gallons if necessary.

BACTERIOLOGY IN INDIA.

The Government of India have sanctioned a revised establishment for Professor Lingard, M.B., Imperial Bacteriologist, from April 1st, when his establishment will be moved from Poona to new premises in the hills.

His Excellency the Right Honourable the Governor of Bombay has nominated Surgeon-Major H. Martin, M.B., as medical officer on his personal staff.

THE Earl of Rosebery will preside at a dinner to be held at the Whitehall Rooms, Hôtel Métropole, on Wednesday, March 20th, in connexion with the Evelina Hospital for Sick Children, Southwark.

EAST LONDON NURSING SOCIETY.—The annual meeting of the East London Nursing Society was held at the Mansion House on March 12th. Prebendary Harry Jones presided in the absence of the Lord Mayor, who was unfortunately through illness unable to be present. The principal object of the society is the nursing of the sick poor in their own homes. The visits of a trained nurse to these humble households have also the beneficial effect that her example is instructive for the family, the female members of which can thus gain some knowledge of what ought to be done in cases of illness. Canon Elwyn, Master of the Charterhouse, and the Rev. Marmaduke Hare, Rector of Bow, bore testimony to the value of the nurses' work. The accounts show a deficit of £180 and increased support is urgently needed.

Correspondence.

"Audi alteram partem."

"PARLIAMENT AND PRISON REFORM."

To the Editors of THE LANCET.

SIRS,—It must be admitted that the lengthy statement of your correspondent in THE LANCET of the 9th inst. on the maladministration of prisons and the evils of centralisation reflects somewhat seriously on the medical officers of prisons. If all these things be true, medical officers cannot divest themselves of responsibility for the existence of many grave abuses. They are armed, as you point out, with large discretionary powers, which I think they exercise to the best of their ability. The Commissioners give them a very free hand—so much so, indeed, in my own experience, that I have never known a medical recommendation for a prisoner's benefit either in respect to his diet or treatment to be ignored. But these charges are not new. They are substantially the same as those which appeared in the April number of the *Fortnightly Review* from the pen of the Rev. W. D. Morrison. Further, they are at present practically *sub judice*, as the committee appointed by the Secretary of State has not yet reported on them, so that the feverish impatience of your correspondent to prejudge the case smacks somewhat of unfairness. Now, although I feel myself to be one of the incriminated, the tone of wholesome scepticism which marks your own leading article on the subject induces me to offer a few explanations by way of defending myself and my colleagues from this attack on us in a medical paper.

Let me premise that your correspondent's conclusions are totally at variance not only with official views, which I am prepared to hear are optimistic, but also with the facts and figures on which such views are based, and which are accessible to all in the reports of the Prison Commissioners. First, I would refer to the death-rate. Your correspondent says: "Centralisation has had disastrous results on the health of the inmates of local prisons." I need not comment on the inherent improbability of this statement, on which you imply some doubt yourself; but I would refer you to page 108 of the Report of the Prison Commissioners for the year ending March, 1894, which gives the death-rate for the past thirty-two years. Taking the average of ten years before the prisons were taken over by Government in 1878, and comparing it with the ten years after that event, I find this result: average annual death rate per 1000 of prison population, 1868–77, 11·2; average annual death-rate per 1000 of prison population, 1879–88, 8·1.

Further, for the six years since 1888 the average death-rate has fallen to 7·6. Your correspondent, however, while admitting this decrease, as shown by the figures, says that these are invalidated by two causes. First, he points to page 24 of the report, on which is found a circular sent by the Home Secretary to the magistrates, in which he calls attention to a number of cases in which persons have been committed to prison in a moribund state or suffering from serious disease, and requests more care to be taken in the way of medical examination. From this your correspondent infers that a "large number" of these cases of serious disease are not now sent to prison, or included in the death-returns. But this circular is dated March, 1885, and the mortality had declined considerably before its issue. The annual average death-rate for seven years before centralisation was 11 per 1000, while that for the seven years after centralisation, and up to the date of the circular, was only 8 per 1000. It is obvious, therefore, that the issuing of this circular has had no material effect on the figures. But your correspondent questions the accuracy of the returns for another reason. He says: "It is now more generally the practice to release prisoners who are in a dying condition before the expiration of their term." I am not prepared to deny that prisoners are more frequently released on medical grounds; but are we to look on this, too, as one of the evils of centralisation and a cruel system? The practice referred to was not in abeyance before 1878. It is no new invention. As to its effect on prison mortality statistics, I believe this to be much exaggerated; p. 92 of the last report gives the particulars of all prisoners so released during last year. Apart from pregnancy, 60 cases are shown for various causes. Out of these 60 cases 14 were removed to infectious hospitals for small-pox, 2 for typhoid fever, 1 for scarlet fever, and 1 for erysipelas; 19 were released

for tuberculosis, 5 for senile debility and chronic bronchitis, 1 for double cataract (to be operated on), 3 for Bright's disease, and 1 for stricture of urethra. Medical readers will readily understand that a large proportion of these are not likely to have died during the term of their original sentences. The total number of releases was equal to 4·1 per 1000 of the prison population. If we add half of these to the death-rate for the year under consideration, it will then amount only to 9·6, which contrasts favourably with the precentralisation death-rate of 11·2.

Your correspondent's observations on the dietary scale have a very unpractical ring about them to one who has had experience of the actual working of it since its introduction and been responsible at four different prisons in various parts of the country for supplementing it with extras to meet the special requirements of individual cases. He ignores the fact that the committee which passed the scale in 1878 were specially instructed to consider the various conditions as to climate, district, &c., to which he refers, and that it was based to a large extent on the scales in existence at the time in the local prisons then under local management. It is obvious that, for administrative purposes, some dietary scale must be in use. No scale that has ever been invented would exactly meet the physiological requirements of every individual in a large body of people. The task of framing such a scale for prisoners was one of special difficulty, and much trouble was expended over it. All this was recognised by the committee, and medical officers were consequently given full powers to deal with special cases and rectify inequalities in the working of the machinery. Without in any way claiming perfection for the scale in use, I would merely speak of it as I have found it in practice. During the past ten years my extra diet book shows on an average additions to the diet of one prisoner in every 180. This means, roughly, that the scale in existence has been sufficient, in my own experience, to meet the case of 99 in every 100 prisoners—a result which seems to me not unsatisfactory. That many prisoners should, after a course of it, leave prison weak and unfit for hard work would at first sight seem strong condemnation; but I can testify that many prisoners enter prison weak and unfit for hard work. A very large proportion are excused the tasks of hard labour which their sentences involve, many of the extra diets ordered are given to prisoners on reception, and not a few cases are admitted to the infirmary on or soon after reception. I yield to none in the desire to shield the prisoner from the consequences of his own misconduct or, it may be, misfortune; but, as the Home Secretary pointed out in the circular to which your correspondent alluded, "it must be remembered that prisons are places of penal discipline," not places where prisoners may retire to recruit their health with a view to fitting them for hard work on discharge. Your correspondent has fallen into a singular error in his figures about suicide. The facts are very simple. In the five years ending March, 1893, there were 43 cases of suicide in the prisons. Of these 2 only occurred after twelve months of imprisonment. Most people would say that 2 cases only amongst long-sentence prisoners in five years would not form a basis for any conclusions except such as to be favourable to prison treatment. The writer, however, sets to work to show the proportion between these 2 cases and the number of sentences exceeding twelve months, but in doing so he compares a five years' list of suicides with a single year's list of long sentences, and draws correspondingly startling results from the process. I must further demur entirely to the logic involved in his statement in connexion with the death-rate, that, because more than half of those who die in prison are old offenders, this indicates the fatal effects of imprisonment. Such a deduction is absurd.

For those of your readers who are disposed to accept his obviously improbable statement that the present system of administration has doubled the number of lunatics, I would venture to prescribe a grain or two of common salt. He evidently credits prisons with insane cases for which prisons are in no sense responsible. The total number of insane for the year 1893-94 was 354. They may be summarised thus: (1) found insane on reception, 282; (2) insane within one month, 17; (3) insane after one month, 55; total number received in year, 168,050. Of those under No. 3 many were reported as unstable, doubtful, or weak-minded on reception. Full particulars of each case appear on p. 110 of report. There is, indeed, no reason to believe that any increase has taken place in the numbers which actually become insane in prison further than that which may be due to more careful diagnosis or to some general causes independent of prison treatment. It must be borne in mind that the criminal class is not of high mental standard, and it cannot fairly be compared with the general population in respect of mental stability. Large numbers of weak-minded and epileptic borderers on insanity are received every year, and special arrangements have long been in force for dealing with such cases in association wards and not in separate confinement. There are many other points I should like to have touched on, such as punishments, recidivism, &c, and in respect to which it could be easily shown that the picture is over-coloured, but I have already encroached too much on on your space.

I am, Sirs, yours faithfully,

R. F. QUINTON.

March 10th, 1895. Medical Officer, H.M. Prison, Wandsworth.

"FEVER AND SMALL-POX HOSPITALS."

To the Editors of THE LANCET.

SIRS,—I am sorry to learn in THE LANCET of March 2nd that among other things "incomplete data" furnish a reason for the writer of your annotation objecting to my evidence as to the limit of aerial diffusion of small-pox. My opinion was based upon personal observation of the facts of the case, and I did not deem it to be necessary to go into details in the report in question. The "incomplete data" to which the writer alludes are as follows. In the first place he says that I ignored the condition of the "school inmates" as to vaccination, and presumably the inmates of the adult asylum and the fever hospital as well. With regard to the fever patients the precaution to admit only those who had been vaccinated was adopted on my recommendation, but I did not on this account allow myself to suppose that patients who had not been vaccinated since infancy were proof against small-pox. On the contrary, seeing that the protective value of vaccination diminishes every year, I felt strongly that if these patients had been exposed to the infection of small-pox a large number of them would have contracted it. My object in taking this precaution was to ensure that if small-pox did break out amongst the patients they should at least have the benefits conferred by a primary vaccination. The writer makes a strong point of the "speciality of school inmates" as to vaccination, which does not appear to me to be applicable; but even if the school inmates (not to mention the inmates of the adult asylum) were as well protected from small-pox as the fever patients, it would not affect my view that if they had been exposed to the infection some of them would in all probability have caught it. The second point which the writer considers to have an "important bearing" on the case includes the stage of disease at which the patients arrived at the hospital and the proportion of convalescent to total small-pox patients. He characterises this omission as a flaw in my evidence, and gives as one of his reasons the existence of "a very general conviction that it is acute cases of small-pox, and not convalescents, that give rise to the diffusion of the infection from hospitals in which patients are aggregated." This opinion ought to receive careful attention before it is accepted, and I would suggest the following considerations, which, in my opinion, throw doubt upon its validity. In the first place, the stage of disease in which small-pox patients are most infectious has not been authoritatively determined, and considerable diversity of opinion prevails respecting the question. Secondly, the origin of outbreaks of small-pox generally proceeds from mild and unrecognised cases. And if the infection from cases so mild as to escape recognition is capable of spreading the disease, much more was the infection of patients in the stage in which they were admitted to the Gore Farm Hospital capable of disseminating the disease. I am not able to gather from the writer's remarks whether the infection of small-pox is diffusible through the air in one stage of the disease but not in another, nor could I follow him in such a view.

In conclusion, I should like to point out that the negative evidence afforded by the absence of a single case of small-pox amongst the inmates of the three institutions almost surrounding the small-pox hospital derives its value in my opinion from this very fact: positive evidence is discounted by the difficulty which attends the elimination of disturbing

causes, such as the transference of infection by personal agency.—I am, Sirs, your obedient servant,

C. E. MATTHEWS.

Fountain Hospital, Tooting, S.W., March 6th, 1895.

*** We can only assume that Dr. Matthews' letter is intended to endorse his previous one, in which he asked, "Why, then, should the question of vaccination and convalescence be used as arguments?" in a matter affecting the aerial communication of small-pox; and in which he regarded the question of convalescence as a mere "begging of the question." We must repeat that both questions are vital to the issue. We agree with Dr. Matthews that if the patients in the hospital had been really exposed to the infection of small-pox a number would have contracted it. But we doubt if it would have been a "large" number, since the patients were carefully selected, not one of them being unvaccinated. Our difficulty is n accepting the view that they were exposed to such infection as he would imply, since the generality, at least, of the small-pox patients were convalescents. And we must express our astonishment that Dr. Matthews has all along appeared to ignore the difference between the acute and the convalescent stage of small-pox in the matter of aerial conveyance. The Royal Commission appreciated the difference as far back as thirteen years ago, and on evidence that appeared to be overwhelming, and which has, so far as we are aware, never been in the slightest degree controverted. Again and again that Commission, in discussing the influence of small-pox hospitals, draw the distinction in question, and say, for example, that they are referring to "the admissions of *acute* cases," or to "cases ..... presumably *acute*—that is, not yet *convalescent*." (The italics are ours.) We are content with the only evidence that is available on the subject, and we cannot admit that Dr. Matthews' conclusion to the effect that "the diffusion of small-pox through the air does not extend to a distance of 1000 ft." is based on data such as could alone justify it.—ED. L.

To the Editors of THE LANCET.

SIRS,—I notice in THE LANCET of Feb. 2nd, under the heading "Fever and Small-pox Hospitals," the following remarks: "To quote Dr. Matthews' own words, he has laid it down that 'the extreme limit of diffusibility' of the small-pox infection is '1000 feet.' This is based on the negative evidence that, whilst 1563 small-pox patients passed through his hospital in certain months of 1893, the inmates of a fever hospital and of the Darenth Asylum and schools, situated about 1000 feet distant, did not contract small-pox. We indicated that two points at least having an important bearing on the question had been ignored. One was the condition of the school inmates as to vaccination." I am able to give you some evidence on this point. On former occasions when small-pox patients were in the camp, say 1000 feet from the schools, all the children were as soon as possible protected by revaccination with calf lymph. In addition, very strict precautions were laid down to prevent the mingling of the attendants and servants of the schools with those of the camp. I cannot tell you what was done in 1893, as I had then left the schools, but I have thought the evidence of the precautions taken in former epidemics might prove useful as bearing on the point in question.

I am, Sirs, yours faithfully,

FLETCHER BEACH,
Formerly Medical Superintendent of the Darenth Schools for Imbecile Children.

Kingston-hill, March 7th, 1896.

THE APPOINTMENT OF MEDICAL OFFICERS IN COUNTY HOSPITALS.

To the Editors of THE LANCET.

SIRS,—A short paragraph in the *Times* of Feb. 25th gave a report of the annual meeting of governers of the Surrey County Hospital at Guildford on the 23rd ult., when a statement was read of its financial position and of the good results of appeals made to the county for increased subscriptions and donations. It then mentioned that a resolution was passed for adding two medical officers to the hospital staff from outside of the town of Guildford. As the reporter gave no hint of the peculiar line of argument taken by the mover and seconder in support of their proposition, with your leave I will now supply the omission, so as to give your readers an insight into the motives which sometimes actuate the governing bodies of these useful institutions. The mover, contended that the large contributions given to the hospital by the Godalming subscribers fairly entitled them to nominate two of their resident medical men to appointments on the hospital staff, which were now to be created for them. Lord Midleton seconded the motion, and assured his hearers that, if the governors of the hospital had at the outset accepted the medical candidate then put forward by Godalming, they would have received far more liberal support in the past from that quarter of the county. I know not how your readers may view the matter, but in my opinion an unprecedented and quite indefensible step has been taken by our hospital governors, by the one part in initiating it, and by the other in acquiescing in it. In the first place, I know of no county hospital that draws the members of its medical staff from any town but that in which it is situated; and there are obvious reasons for such a restriction. Then, what is to be said of the proposal to augment the staff when the existing number is already larger than is necessary? We have now six medical officers for less than ninety beds, and I can find no instance of a hospital with a larger proportion, and but few instances, if any, with so many. But what seem to me to call most for animadversion are the terms of this new arrangement, which virtually amount to a proposal for making subscription to the hospital fund conditional on the admission of two medical men to hospital appointments. And now that the Godalming subscribers have established their right to nominate medical officers on the strength of their contributions, by parity of reasoning the other neighbouring towns of Farnham and Woking may by doubling their subscriptions acquire similar rights to make additions to the hospital staff.—I am, Sirs, your obedient servant,

Guildford, March 4th, 1895. HENRY TAYLOR.

THE TITLE OF "DOCTOR."

To the Editors of THE LANCET.

SIRS,—At the last monthly meeting of the Faculty of Physicians and Surgeons I submitted the following motions: First, "That the attention of the Faculty having been directed to the use of the title and style of 'Doctor' by gentlemen holding only the licence of the Faculty, the clerk be instructed to communicate with such Licentiates in the name and on behalf of the Faculty, pointing out that the licence of the Faculty is a purely surgical qualification and does not legally entitle its possessor to the title of 'Doctor,' and that in any case in which it is so assumed on the strength of this qualification alone it is recommended that the practice be discontinued." Secondly, "That the attention of the Faculty having been directed to the use of the title and style of 'Doctor' by gentlemen holding only the triple qualification of the Scottish Conjoint Board, the clerk of the Faculty be instructed to communicate with such Licentiates in the name of the Faculty, pointing out that this qualification is merely a licence to practise medicine and surgery, and does not legally entitle the possessor to the title of 'Doctor,' and that in any case in which it is so assumed on the strength of this qualification alone it is recommended that the practice be discontinued." These motions being somewhat embarrassing to the Faculty were manifestly rushed, and the "previous" question was carried by a majority. Now what is the significance of this vote? I take it to be that so far as the Faculty is concerned any one of its Fellows or Licentiates may assume what title he pleases, whether he possesses it or not. It is his academic distinction or other legal qualification that a member of the medical profession puts on his door-plate or visiting card and not a popular designation. Any medical practitioner prefixing the title "Doctor" to his name in this manner implies that he is in possession of the doctorate of an university—of a doctorate which is registerable; and when he does so on the strength of mere licence to practise surgery, in my opinion, he deceives the public, and between public deception and "infamous conduct in a professional respect" the partition is surely very thin. That in these days of hyper-sensitiveness

on the part of the Medical Council, difficult often to reconcile with reasonable freedom, the present unsatisfactory state of the question of medical titles should be permitted to continue is to me not a little surprising. Lord Justice Lopes defines "infamous conduct" in the medical sense as follows: "If a medical man in pursuit of his profession has done something in respect to it which would reasonably be regarded as infamous by his professional brethren of repute, that would be evidence of infamous conduct in a professional respect. The question was not whether that which the medical man had done would be infamous if done by someone outside the medical profession. The conduct must be infamous in a professional respect." Now I venture to express the belief that most men "of repute" in the medical profession would hold the assumption of a title to which a man has no legal claim "infamous" either in or out of the profession. If the mere Licentiate of the Faculty is to be permitted to assume the title of "Doctor" on the strength of a single surgical qualification, what is to prevent the L.R.C.S. Edin., the M.R.C.S. Eng., the L.S.A., and the L.A.H. Dub., from doing the same thing, and why should men take the trouble to qualify for University graduation if the title of "Doctor" is conferred legally by a minimum qualification in surgery? For some time past in Scotland, and, I presume, also in England, the holders of the Scottish triple qualification have boldly prefixed the title of "Doctor" to their names on visiting cards and brass plates, and with respect to this the College of Physicians of Edinburgh seems to have assumed a change of front. Not many years ago it was distinctly declared in one of the bylaws of this College that its licence in no wise conferred the right to this title. In order to make sure of its present attitude in regard to the question *a propos* of the foregoing motions, I wrote to the secretary of the College requesting information on the matter, and he replied, "The College has never sanctioned the adoption by its Licentiates of designations other than those legitimately implied in the licence which it grants"; and in further reply to my query whether the title of "Doctor" was considered by the College as "legitimately implied in the licence which it grants" he stated: "I regret that I cannot add more regarding the point that you raise. Beyond what I indicated in my previous letter the College has not to my knowledge expressed itself. I fear that an interpretation of law such as you invite might be regarded as outside the scope of the College's acting." Hence the Scotch College of Physicians, in common with the Faculty of Physicians, evidently permits its Licentiates to call themselves by any title which their indelicate sense of honour allows them to assume. The kernel of the question has been so well put recently by Dr. E. H. Cartwright that doubtless you will permit me to quote the following: "A man calling himself 'Doctor' implies that he possesses a doctor's degree in some Faculty or other, and hence one who has not acquired such a degree has no absolute right to use the style. Some people there are who, while admitting that a non-university man has no right to the title 'Doctor,' maintain that an M.B. is justifiable in assuming it. It is impossible to see any grounds for such an assertion. What, I wonder, would be thought of a 'B.D.' or a 'B.C.L.' who arrogated to himself the style of the superior degree? I am inclined to think that if such a thing were done that man's university would take active steps to stop it; and yet in the Medical Faculty it is allowed to be done on all sides with impunity." But not only do registered medical men, no matter what their qualification, assume the title of "Doctor," but the country is strewn with men in possession, doubtless, of some doctorate or another who have never been within the portals of an university. I refer principally to the great body of dentists, who assume this title on the strength of a fragment of parchment from some needy German university which they have never seen, or one or other of the mushroom shops of America, whose ephemeral existence depends on the sale of degrees. Not only are these men as ignorant of Greek (a knowledge of which is required for the M.D. of the Scotch universities) as they are of Coptic; but the great bulk of them are unable to write or to speak decent English. Now Clause 40 of the Medical Act provides that if any person assume a title implying registration under this Act when he is not so registered, he renders himself liable to criminal prosecution. The assumption of the title "Doctor" by anyone practising medicine or any branch of it implies registration as such under this Act, and yet this clause is violated throughout the length and breadth of the land with impunity. If not the letter, it is, I hold, the spirit of the Act that no practitioner of medicine should assume a title under which he is not registered, and that a violation of this should be treated as penal. As matters are at present interpreted it appears that a man, no matter what his qualification may be, providing he is registered, can assume any title he pleases. Registration thus protects dishonesty. It surely cannot be held that this is a satisfactory state of matters or that under it the public are properly safeguarded. The solution of this question is clamant, and if the universities and the licensing bodies will not act, the Medical Council should be called upon to settle what is a burning question of long duration.

I am, Sirs, yours faithfully,

D. CAMPBELL BLACK, M.D.,
Professor of Physiology in Anderson's College Medical School.

Glasgow, Feb. 20th, 1895.

"CRANIECTOMY."

To the Editors of THE LANCET.

SIRS,—In your report of the discussion at the Medical Society of London of Dr. Wallis Ord's and Mr. Cotterell's case of Craniectomy[1] I observe that I am stated to have said that in microcephalus "union of the bones followed the arrest of cerebral growth." What I did say was that "the skull was consequently small," not intending to imply that premature synostosis usually occurred. The latter view, frequently attributed to Virchow, is, I believe, not now held by him, and, as Sir George Humphry has recently stated,[2] there was nothing found in the nineteen idiot skulls examined by him "to suggest that the smallness of the bony cerebral envelope exerted a compressing or dwarfing influence on the brain." Indeed, according to Professor Cunningham, the skull of a typical microcephalic idiot, for many years under my care at the Royal Albert Asylum, was at the age of twenty-nine years (when he died) not fully synostosed. In the case shown at the Medical Society there was evidence of premature closure of the fontanelles and pressure symptoms, which undoubtedly justified operative measures; but I venture to question the existence of congenital microcephalus in the ordinary acceptation of the term.

I am, Sirs, yours faithfully,

Richmond-hill, March 4th, 1895. G. E. SHUTTLEWORTH.

"CYCLING AS A CAUSE OF HEART DISEASE."

To the Editors of THE LANCET.

SIRS,—I have read with much interest Dr. G. Herschell's paper on the above subject in THE LANCET of March 2nd. I cannot, however, entirely agree with the preventive measures with which he concludes his paper.

1. *The use of a gear.*—Dr. Herschell does not, it seems to me, sufficiently explain that the gear should depend upon the strength of the rider, the weight of the machine, the kind of tyres used, and the nature of the roads over which the machine is ridden.

2. *The upright position in riding.*—I do not think that the stooping posture either "contracts the chest" or "prevents the proper expansion of the lungs," or "so interferes with the aeration of the blood as to cause the condition of breathlessness to come on more quickly."

In the first place it is surely very improbable that racing cyclists should adopt a position which contracts the chest and brings on dyspnœa. I have myself never experienced any difficulty in expanding my chest when stooping forward over the handles, nor have I ever heard such a complaint from any other cyclist. About two years ago I made some simple experiments, which show that the chest cannot be contracted to any practical extent. Sitting on a bicycle first in the upright posture and then bending forward in the extreme racing posture, I measured by the aid of a spirometer the maximum amount of air which I could inspire and expire. The following are the mean results in litres of four such experiments:—Sitting upright: expiration, 3·7; inspiration, 3·2. Bending forward: expiration, 4·0; inspiration, 3·5. These experiments tend to show that the capacity of the chest is increased in the forward position; this increase is due, perhaps, to the shoulders being thrown back in

[1] THE LANCET, March 2nd, 1895.
[2] THE LANCET, Feb. 16th, 1895.

bending forward. In riding slowly I would advocate an upright position, but in riding fast or against a head wind a cyclist by bending forward to an extent proportionate to the pace or strength of the wind materially diminishes the wind resistance and rides with considerably less effort. Dr. Herschell's last precaution—"on no account should the cyclist continue riding after he has commenced to feel short of breath" &c.—seems to me to be far too strict to be observed in practice, for under such a condition no athletic exercise could be practised.—I am, Sirs, yours faithfully,

W. J. TURRELL, M.A., M.D. Oxon.

Iffley-road, Oxford, March 5th, 1895.

"THE TREATMENT OF INFLUENZA."

To the Editors of THE LANCET.

SIRS,—I have read Dr. Burney Yeo's letter on this subject in THE LANCET of the 2nd inst., and I am glad to see that he gives the weight of his opinion against what may be called the "over-treatment of influenza." To overload with drugs a constitution already doing hard battle with the influenza poison, to deaden, benumb, or in any way decrease the nervous sensibility with a view to relieve mere symptoms may, indeed, please your patient, but I am persuaded that it also endangers his life. Indeed, I fear many fatal cases are due to this primary mistake of treating the symptoms instead of the patient. In influenza I recognise a disease which must run a certain course, and instead of trying to abort it I endeavour to secure to the patient such circumstances as may enable him the more safely to undergo the attack. The treatment I adopt is simple enough—perhaps too simple to recommend itself to many, nevertheless I have never met with any complications worth speaking about and never lost a patient. I put the patient to bed in a sufficiently warm and airy room, gave him plenty of good beef-tea, mutton-tea, or chicken-broth—preferably beef-tea—as much cold water as he cares to sip, and a sufficiency of the liquor ammoniæ acetatis every three hours to keep the skin moist, eliminate the poison, and reduce the fever. I pay no attention to the cough, headache, or the usual bodily pains, consoling my patient with the information that such pains are necessary concomitants of the disease, and that they will disappear with the fever. This I find happens in from one to three days' time, when I immediately put the patient on quinine (and occasionally on arsenic also), alcohol in some form, and plenty of raw eggs, good soups, and nourishing diet, given in small and oft-repeated quantities. I have always found my patients progress, and the only real trouble I have had is in persuading them to remain sufficiently long indoors after they consider themselves well. Among other simple remedies one physician has successfully tried bicarbonate of potash in large and frequent doses. Here the drug appears to have eliminated the poison through the kidneys, and Dr. William Robertson of Newcastle-upon-Tyne appears to have been more rapidly successful through the use of benzol—an antiseptic and bacillicide. But whatever the drug may be it appears to me that the simplest is the best, and that the chief indications are to place your patient in the most advantageous hygenic circumstances and to nurse him scientifically.

I am, Sirs, yours faithfully,

R. MAXWELL MOFFAT, M.D. St. And.

St. Heliers, Jersey, March 6th, 1895.

"THE GENERAL MEDICAL COUNCIL AND THE OBSTETRICAL SOCIETY."

To the Editors of THE LANCET.

SIRS,—I have always maintained that the onus is upon the shoulders of the proposed legislation to show the necessity for it and the reasonableness of it, so when Mr. Flemming gives up statistical evidence upon which it was admittedly based to a large extent, admits that it will not immediately or absolutely remove the unregistered practitioner, that it is doubtful whether a trained midwife in a country district would be able to earn a sufficient competence to make it worth her while to go through a comparatively expensive training, and admits that the present position of trained midwives practising chiefly amongst the poor as the employées of institutions or charities (which are usually, or, I believe, always, assisted by medical men) is the best thing that could be wished for, he cannot be surprised when I say that the whole case for legislation has broken down. It appears to me that Mr. Flemming has played the part of Balaam reversed, because his arguments cut away the ground from beneath the feet of nearly all those who supported registration before the House of Commons and of every one who has done the same in the medical and nursing papers. He came to bless the principle of registration, and he has cursed it.

I am, Sirs, your obedient servant,

March 4th, 1895. LOVELL DRAGE.

"THE REMUNERATION OF THE RESIDENT OFFICERS IN ST. BARTHOLOMEW'S HOSPITAL."

To the Editors of THE LANCET.

SIRS—In the letter published in your issue on March 2nd from "An Old House Surgeon of St. Bartholomew's" there are some points that require explanation. Your correspondent says that the "resident officer is in residence for six months—say, twenty-six weeks—and pays about £1 per week for his food. Therefore in twenty-six weeks he pays £26 for food." And again, "In those six months he pays £26 and for his year's work he receives £25." Now, Sirs, if this is the experience of your correspondent, he must either have left at the end of his term of office owing a sum of money to the caterer or else the cost of living must have changed very much of late years. It will serve no useful purpose to go into details, but in my experience the cost per week came to about 28*s.* to 33*s.* It is true that lunch and dinner only amounted to about £1, but one requires more than two meals per diem in St. Bartholomew's Hospital, and the extra one with washing brings the total cost up to at least £1 10*s.* per week. Further, the £25 paid to the residents are paid quarterly, so that, for instance, the intern midwifery assistant and the ophthalmic house surgeon, who are appointed for six months and not for a year, receive the handsome sum of £12 10*s.*, on which they are supposed to board themselves during their term of office. Even were the house surgeons paid while in residence, as your correspondent assumes, there would then be the first six months during which period they as juniors would have absolutely no salary at all. I would suggest that the school authorities at St. Bartholomew's Hospital should carefully consider this matter—how much better the residents are treated so far as emolument goes in other hospitals, and I feel sure that the letters which have appeared will show them as well as the governing body how unfairly some men of small means are treated under the present system.

I am, Sirs, yours faithfully,

March 11th, 1895. FAIR PAY.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

The Rev. John Watson.

THE author of the book so favourably alluded to in THE LANCET of March 2nd in the annotation entitled "Our 'Gideon Grays'" is a local clergyman of whom Liverpool may be justly proud. The Rev. John Watson is well and favourably known, not only as the minister of Sefton-park Presbyterian Church, but as one of the honorary secretaries of the Hospital Sunday and Saturday Funds Committee, and it is no disparagement to former secretaries to say that Mr. Watson has brought into his secretarial duties, especially the preparation of the reports, a thoroughness and originality all his own. His appreciation of the medical profession and of the self-denying labours of its members among the poor will be recognised by his numerous countrymen who have made Liverpool their place of abode. This city has always had a large number of Scotch residents, who set a good example in thrift and industry, many rising to very prominent positions. The medical profession is now, as it has always been, well represented among them and a long list might be given of Scotch names which have enjoyed a reputation far beyond the bounds of the city.

The Assizes.

Lord Chief Justice Russell presided to-day in the Crown Court and charged the grand jury. While congratulating them on the fact that the calendar disclosed a less serious amount of crime than formerly, he observed that it was quite serious enough, there being three charges of murder, two of attempted murder, five of manslaughter, nine of stabbing,

and eight of indecent assaults on female children. His lordship noticed with satisfaction the reduction in the figures for drunkenness in the head constable's report just published, which reduction he considered due to several causes—the better supervision of public-houses, the greater care shown by licensees in refusing to serve drunken persons, the reduction of the number of public-houses, and the improvement in the intelligence and moral tone of the masses of the people.

The Use of the Knife.

Later in the day, in trying a case of wounding with intent to do grievous bodily harm, Lord Russell told the jury that they ought not to hesitate to find a prisoner guilty on the grave charge in a case like this, when they were satisfied that a knife had been used. It was one of the disgraces of this city, and one of the most serious blots on the present calendar was the number of cases in which men were charged—on slight provocation, sometimes on no provocation at all—with taking out their knives—the husband against the wife, the neighbour against the neighbour, the workman against the fellow workman. That should be put a stop to. Juries were called upon determinedly to do their duty and the judges would do theirs. This kind of offence must not be treated lightly. The offence was a danger to the peace of society, far more dangerous than many offences regarded by the law as very serious offences against property.

A Year's Inquests.

The head constable's annual report gives the following statistics in the table of inquests. The inquests were for the year 1894 918, 570 being on males and 348 on females, the difference being clearly due to the greater exposure of men and boys to accident in such a city as this. In addition to these the coroner had 542 other cases referred to him by the police and others, making a total of 1460 cases of death investigated by him during the year. The number of informal inquiries is rather less. During the year 93 post-mortem examinations were ordered, but no details of these are furnished. Among the findings of the jury, that of "Suffocated whilst in bed with parents or others" occurred in no fewer than 163 cases. The deaths of 206 males and of 113 females were caused by accident; 45 males and 16 females committed suicide; 20 males and 1 female were found drowned. The shocking verdict, "Excessive drinking," was returned in the case of 104 males and 78 females. "Natural causes" was returned in 114 cases. Most, if not all, might have been medically certified if the coroner possessed the power to seek the aid of and remunerate medical practitioners in cases where he merely holds an informal inquiry.

An Abortive Inquiry.

At the inquest held in consequence of the unfortunate case of poisoning at Skelmersdale, near Ormskirk, already mentioned in our columns,[1] the jury failed to arrive at any conclusion, and the proceedings were accordingly adjourned from Feb. 27th to March 4th. The jury being still unable to agree, the Coroner directed them to attend at the assizes in order that they might be addressed by the judge. The Lord Chief Justice charged them that if in their opinion there had been gross and culpable negligence on the part of the chemist's assistant, he was liable to be tried for manslaughter, otherwise they ought to return a verdict of misadventure. After further deliberation the jury failed to agree, and were consequently discharged.

The Death-rate.

The recent severe weather has told heavily in Liverpool, where 510 deaths were registered during the week ending on March 2nd, the rate of mortality being 52·6 per 1000. This is probably the highest death-rate ever recorded in Liverpool, and compares with 25 5 per 1000 in the corresponding week last year.

March 12th.

NORTHERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENT.)

Fatal Football Accident.

ON Thursday, the 7th, an inquest was held at Hexham on the body of Mr. J. Alexander Burn, aged twenty-three years, who came by his death under very sad circumstances on the previous Saturday. While engaged in a football match he collided with a player on the opposite side, and sustained serious injury to his spine, the precise nature of which was never ascertained. However, on the Tuesday, the fourth day after the occurrence, he died. The gentleman with whom Mr. Burn collided is a medical student at the University of Durham College of Medicine. It should be added that the father stated that his son had told him that he absolved anyone from blame. The foreman told the coroner that the jury were unanimous in recommending, through the coroner, the Rugby Union to make a revision of its rules, so that the pastime might become less dangerous. Seeing how common these very sad so-called "football accidents" are it certainly seems necessary that some alteration in the mode of playing the game should be insisted upon. If after such alterations have been made the game is still played with such serious results as now only too often arise, there can be no doubt football—an excellent game when properly played—will at no distant date deservedly fall into disrepute.

Newcastle Dispensary.

The annual meeting of this very popular and useful charity has just been held. 9567 patients were admitted by letter last year and 17,904 were casual visitors, making a total of 27,471, the largest number perhaps treated in any one year by the medical officers. The dispensary is one of the oldest and best-managed medical institutions in the north of England. It does an immense amount of work and does it well; its finances, too, are in a sound condition.

Nurses' Home and Training School.

From very small beginnings this institution has become one of considerable importance. Commenced some twenty years ago with a staff of a matron and three trained nurses, with a capital of some £200 and a subscription list of about £100 a year, it has now a staff of seventy trained nurses, ten probationers training at its expense, a matron, and an assistant matron. It has become a self-supporting institution. Last year the nurses earned £3289 1*s.* 9*d.*, and in addition to their salaries, uniforms, and residence in one of the most comfortable houses in the town a bonus of £280 was divided amongst them. Nothing can better indicate the change which has come over public opinion on the nursing question than the signal success which has attended the career of this home. The neighbourhood is deeply indebted to the ladies who, as a committee, have watched over and administered the Nurses' Home and Training School. They have been fortunate in securing the services of an able matron, and it is to a very considerable extent due to the kindness and administrative capacity of Miss Ennery that the present satisfactory condition of the home is due.

Suspected Cases of Rabies at Haltwhistle.

The justices of the Petty Sessional Division of Haltwhistle, Northumberland, have issued an order that dogs "not being under the control of any person within the division are to be muzzled, and kept muzzled" until April 6th, 1895. This action has been taken in consequence of a dog being suspected of rabies.

Tragedy at Newcastle Barracks.

Thomas Turnbull, a soldier aged eighteen years, was this morning (March 11th) at the police-court charged with causing the death of a comrade, Henry Young, aged nineteen, by stabbing him in the face with a pocket-knife. On Saturday, March 9th, a quarrel took place in the barrack-square, and during it Turnbull stabbed Young in the inner corner of his right eye. Young died at about one o'clock on Sunday, and on a post-mortem examination Surgeon-Lieutenant-Colonel Hoystead found that the knife had entered the base of the brain and divided a small artery, bleeding from which gave rise to a fatal compression. Turnbull was remanded till Saturday to await the finding of the coroner's jury.

North of England Surgical Aid Society.

The annual meeting of this society was held in the boardroom of the guardians, Pilgrim-street, Newcastle, under the presidency of the Vicar of Newcastle. The report showed a considerable increase of work, and if there was a slight decline in subscriptions the workmen's contributions have been kept up.

Sir J. Lowthian Bell is seriously ill at his residence, Rounton Grange, Yorks, suffering from influenza

Newcastle-upon-Tyne, March 11th.

[1] THE LANCET, March 9th, 1895.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

The Edinburgh Medico-Chirurgical Society.

THE ordinary meeting of this society, which was held last week, was very poorly attended, this being partly due to the prevalence of influenza keeping the profession very fully occupied with sick people, and partly, no doubt, to a reaction after the strain of three nights devoted to the discussion on Cardiac Therapeutics. Notwithstanding the smallness of the attendance a number of interesting patients and specimens were shown. Dr. McBride read a thoughtful paper on Suppuration in certain Osseous Cavities, in which he very calmly and judicially reviewed current opinions in the light of his own long experience in the Ear and Throat Department of the Royal Infirmary, and as practising in that special department. Other communications on the billet were postponed until the society meets in May.

Health of Edinburgh.

The epidemic conditions in Edinburgh cannot be said to have abated much, if at all. Influenza is still rife, and the death-rate has during the past week gone up to 43 per 1000. Out of 225 deaths, 157 were due to diseases of the chest; and there were 2 deaths from small-pox. The intimations for the week include 8 fresh cases of small-pox, 38 of scarlet fever, and 528 of measles. Owing to the prevalence of measles amongst pupils and influenza amongst teachers, a good many schools have been shut for a short period.

Death of Dr. T. A. G. Balfour.

By the death of Dr. T. A. G. Balfour Edinburgh has lost a well-known figure. He was attending to his patients on Friday night, became ill on Saturday morning, and died on Sunday night. Dr. Balfour was seventy years of age, and had been in very active practice for forty years. He was a Fellow of, and Examiner to, the Royal College of Physicians of Edinburgh. In the College he also held the post of Curator of the Materia Medica Museum. He was a member of a medical family, one brother having been a practitioner in Portobello, and another occupied the chair of Botany in Edinburgh. Dr. Balfour took a very active interest in ecclesiastical matters. He was an elder in the Free Church of Scotland and ranged himself on the conservative and constitutional side in that denomination, and his voice was often heard in the church courts. His genial and friendly manner and kindly bearing were felt by all who came in contact with him outside the domain of ecclesiastical controversy, and many of his brethren will miss the kind and courteous greeting they always received from him.

Death of Dr. Shand.

Another figure which until recently was known to the members of the medical societies in town has gone from his place. Dr. Shand, who had formerly held a first place in Kirkcudbright as a practitioner of ability, died in Edinburgh this week at the age of seventy-two. He retired from active work years ago, after an attack which left him semi-paralysed on one side; but, a man of much determination and courage, he went about with great freedom in spite of his disabled condition.

Queen Margaret College, Glasgow.

Another set of medical wards (those of Professor John Dougall's) has been made accessible to women students in the Glasgow Royal Infirmary. The wards of two surgeons and of two physicians are thus now opened for clinical instruction to these students.

Public Health of Glasgow.

The city death-rate fell last week from 54 to 44 per 1000—an improvement due doubtless to the milder weather which now prevails.

Cremation in Glasgow.

A question having been raised as to whether the representative of a deceased person requires any legal sanction to have the remains cremated in the absence of special instructions of the deceased, the secretary of our local Cremation Society states that no such legal sanction is necessary. While in such circumstances the representative of a deceased person may dispose of the body by ordinary earth burial or cremation, with or without subsequent urn burial, no society will countenance the cremation of the remains of anyone who was known to disapprove of cremation. In fact, one of the forms required to be filled up contains the phrase, "and I certify that the deceased expressed to me no objection (orally or in writing) to be cremated after death."

Consumption Hospitals for Scotland.

An account was given some time ago in this column of the scheme started, and now being carried out under the guidance and inspiration of one of our best-known local philanthropists, Mr. Wm. Quarrier, for the erection and maintenance of a series of hospitals for consumptives. In the course of "A Plea for Consumptive Hospitals for Scotland," a pamphlet just issued by Mr. Quarrier, the following sensible reasons are given for the building of these hospitals:—

1. Consumption is the most prevalent and most fatal disease in existence. So much is this the case that it is called the "plague of England," and I suppose it would not be unfair to say that it is equally destructive in Scotland.

2. While the well-to-do or wealthy suffer from its ravages, consumption is essentially the poor man's disease, the outcome of poor food, poorly ventilated homes, and of overworked body and brain.

3. Notwithstanding that the disease is so destructive, consumptive patients are often refused admittance into general hospitals on account of beds being occupied by more urgent cases, and because of the lingering nature of the disease and its almost certain fatality in its advanced stage. These very peculiarities of the disease should give the patient the strongest claim upon our sympathy.

4. Even if the doors of the general hospitals were freely open to receive consumptive patients (and you know they are not), these institutions do not afford the necessary facilities for the proper treatment and care of such patients.

5. While the aim is to furnish a home for consumptives and thus bring relief to the patients, undoubtedly a great benefit will be secured by affording an opportunity to physicians for the more careful study of this disease. This can be better done when a number of patients are brought together in the one building. The general public will be benefited through the education that will be given by patients who have been treated, and who have thus acquired a knowledge of how the disease may be prevented or cured.

6. It is only by furnishing a building specially prepared for the treatment of patients afflicted with tuberculosis that satisfactory results will be obtained. In the first place, it is absolutely necessary to have a building so located that it will be free from smoke, dust, and other impurities of air incidental to city life. This is secured in the site amid the hills of Renfrewshire.

Mr. Quarrier contemplates having a series of six small buildings for twenty-five to thirty-five patients each, and estimates that £60,000 will be needed for completing the buildings; of this sum £12 000 have already been received. Mr. Quarrier has a board of advisers on the subject, consisting of Professor W. T. Gairdner, M.D., LL.D., F.R.S.; Professor J. G. M'Kendrick, M.D., F.R.S.; Professor Joseph Coats, M.D.; D. Yellowlees, M.D., LL.D.; James B. Russell, M.D., LL.D.; Ebenezer Duncan, M.D.; while the following medical men have also promised their practical help when required:—Professor Murdoch Cameron, M.D.; Professor D. N. Knox, M.A., M.B.; Professor John Barlow, M.D.; Professor W. L. Reid, M.D.; Dr. R. Cowan Lees, Dr. Walker Downie, Dr. Thomas Barr, Dr. T. S. Meighan, and Dr. T. Brown Henderson.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Public Health of Dublin.

AT the general meeting of the Public Health Committee, which met on Tuesday, the 5th inst., Sir Charles Cameron reported that during the week ending Feb. 23rd the death-rate in the metropolitan registration district was 34·3 per 1000 persons living, the rate in the city being 39·4 per 1000. During the first eight weeks of the present year the death-rate was 0·3 per 1000 below the mean rate for the corresponding period in the previous ten years. The week ending March 2nd there were 3 deaths from influenza and 3 from small-pox. The number of cases of small-pox which occurred during the same week was 25—14 on the north side of the city and 11 on the south side. There were 61 cases of this disease under treatment in Cork-street Hospital, 34 in the Hardwicke, and 132 convalescing at Kilmainham. In the week ended Feb. 16th 56 cases of small-pox were notified, but in the following week the number fell to 27. The epidemic, which had shown great decline in the week ended Feb. 23rd, further but slightly declined last week. Up to twelve o'clock on Tuesday the cases notified for the current week numbered 5, which were all on the north side of the city.

Jervis-street Hospital, Dublin.

The usual monthly meeting of the above institution was held in the board-room of the hospital on Thursday, the

7th inst. The minutes of the previous meeting were read and confirmed, and the accounts for supplies to the hospital during the past month were examined &c. The number of patients relieved during the past month amounted to 2002, of which 578 were cases from accidents. The managing committee acknowledged numerous subscriptions for the month ending February. The meeting then adjourned.

Richmond Lunatic Asylum.

An Order in Council has been issued by the Richmond Lunatic Asylum sanctioning the expenditure of £4000 to complete the erection and equipment of the now temporary buildings provided to meet the overcrowded condition of the lunatic asylum, and also the sum of £2000 for fitting up Portrane houses and offices for the accommodation of patients and to meet preliminary expenses in connexion with the erection of the new buildings.

Dublin University Calendar for 1895.

The Dublin University Calendar for 1895 has just been published by Messrs. Hodges, Figgis, and Co. I note that the number of electors on the roll of Trinity College is 4506, the returns having been brought down to the date of the last winter commencements. Efforts have been made to supervise the general information afforded in regard to the student societies &c. The subscribers to the Graduates' Tercentenary Memorial have their names set forth with the amount of their benefactions. To this fund for the building of a Dublin University Union consisting of voluntary societies and organisations of the University a sum has been made available up to Dec. 31st last of £6900, and there can be no doubt that this will yet be considerably added to. In the meanwhile the board have granted as the site of the Union buildings that occupied by the present No. 29, in the Library square, and the plans for the structure are under consideration. A glance at the calendar shows that more than the usual care has been expended upon its revision.

Remarkable Case of Longevity.

A remarkable case of longevity has been brought under notice, that of a woman named Margaret McVey of Downpatrick, and on the coffin her age was stated to be 105. From other information since obtained it appears that the deceased was born at Ballykinlar in June, 1780, and was therefore 115 years old. She was married, had two children, and up to the time of her death was healthy, strong, and sensible. She remembered the battle of Ballynahinch well, and up to a short time before her death attended Ballykinlar Chapel.

The Battle of the Clubs at Cork.

We are promised a curious development in connexion with the recent prosecution of students for snow-balling. Soon after the proceedings in the police-court the *West Cork Eagle* made some comments which Mr. J. M. Lynch, one of the defendants, considers libellous, and he has accordingly caused a writ to be issued in his behalf by a solicitor.

Charge against a Poor-law Medical Officer.

The Killarney Dispensary Committee held an important investigation last week relative to a charge of neglect of duty against Mr. Paul R. Dillon. A Mrs. Sullivan, in a long letter originally addressed to the Local Government Board, stated that her son, a dispensary patient, received an injury to his head; that Mr. Dillon, on visiting him, "merely gave directions to give the patient a powder and apply mustard to his feet," but "did not examine the head of the patient, though being told that he had received a hurt on the poll"; that the following day Mr. Dillon was asked if he had brought his instruments, and "then only examined the patient's head"; that the patient died in about forty minutes after the medical man's departure; that at the inquest another medical practitioner stated he made a post-mortem examination and ascertained that "death resulted from blood being clotted on the brain, the result of a fall." Mr. Dillon's explanation to the committee gave a different aspect to the case. He stated that the messenger told him the patient had had a fit the previous night and was very bad. On arriving at the house he learned that the patient had been drinking, and at that time he heard nothing at all with regard to the patient having had a fall. As a matter of fact, the young man was actually dying from apoplexy, and treatment was ordered rather with a view to comforting the mother than in the hope that any good would result to the patient. The committee heard the evidence of several others, and after an exhaustive investigation entirely exonerated Mr. Dillon from blame in connexion with all the charges.

Who Pays: the Guardians or the Poor-law Medical Officer?

As the remuneration of country dispensary medical officers is often so wretchedly inadequate, the result of the contest between the Midleton Poor-law guardians and Dr. Blanchard will be looked forward to with keen interest by many. Dr. O'Connell, dispensary medical officer, through ill-health was for some months incapacitated from discharging his duties, and Dr. Blanchard had been acting as his locumtenent. The latter applied to the guardians for remuneration, but as he has not elicited a satisfactory reply he has put the matter in the hands of a solicitor, and the guardians have requested the Local Government Board to advise them as to what their legal obligations may be.

The National Calf Vaccine Institute, newly opened at Sandymount-green, near Dublin, is a welcome addition to our means of obtaining an adequate supply of unexceptionable lymph. The medical director is Mr. J. Knox Denham, and Professor McWeeney is the bacteriologist.

March 12th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Liabilities of a Traveller affected with an Infectious Disease.

EVERY perambulating Englishman is familiar with the *tracasseries* to which he may expose himself at the hands of foreign and mostly small hotel proprietors when either he himself or a member of his family has the misfortune to contract an infectious disease during his sojourn at the hostelry patronised by his party. The first thing the landlord generally does is to order the removal of the sufferer. In addition to this, damages are very commonly claimed to recoup the house for the real or imaginary prejudice caused by the presence of the patient. Now, it need hardly be said that compulsory removal may entail great danger, nor must it be forgotton that the presence of a case of scarlet fever has not unfrequently been successfully concealed from the other denizens of the establishment, in which case it is hard to appreciate the loss of credit or custom incurred by Boniface. The right of the landlord to enforce removal and the payment of damages is rarely contested by the victim who has then nothing to do but submit. Now the travelling public should know that by a judgment delivered by the Sixth Chamber of the Paris Cour d'Appel on Feb. 1st, 1895—a judgment confirmatory of the ruling of the Civil Tribunal of the Seine, dated June 30th, 1893—the position assumed by the landlord in such a contingency is untenable. In the judgment it is expressly stated that damages cannot be claimed from a visitor for the trouble and possible loss caused by the presence in the hotel of a member of that visitor's family affected with an infectious disease, provided that the medical attendant delivers a certificate to the effect that risk to life would attend removal to another house. The traveller can resist removal even if the landlord has served him with a formal notice to quit at the very onset of the illness. It is held that the illness is an accident beyond the sufferer's control, and that, further, such an unfortunate occurrence forms part and parcel of the obvious risks attending hotel-keeping. It is ruled, however, that the visitor is responsible for the expenses incurred for the cleansing and disinfection of the premises occupied by him. I have heard of extravagant charges being made at continental health-resorts after the death of a visitor whose disease was indubitably non-infectious. It is mostly at the smaller hotels that these annoying claims are made, and visitors cannot be blamed for showing fight. But when the disease is of an infectious nature it is better to come to some friendly understanding with the landlord, whose position is, after all, no enviable one under the circumstances. Should he prove recalcitrant, it is wiser to forego one's rights when possible and seek accommodation elsewhere, for an unwilling landlord and hotel staff are not exactly aids to the successful steering of a severe case of illness to recovery. It is only right that I should bear testimony to the good feeling almost invariably shown by the landlords of the best hotels here in Paris under such trying circumstances, and it is not unreasonable to expect visitors, even though they be

cognisant of the rights conferred by the above-mentioned ruling, to meet their Amphitryon half-way.

Cerebral Complications of Influenza.

Professor Cornil[1] has recently had under observation three women affected with encephalopathy of influenzal origin. In each instance recovery ensued. The first two cases were almost similar, the only difference being that in one instance the motor paralysis was on the right side and was accompanied with aphasia, whereas in the other the left side was affected and aphasia was absent. In both cases the early symptoms were identical: persistent and severe headache, followed by sudden loss of consciousness; partial coma with stertor, lasting in one case three weeks, in the other four days only; hemiparesis, retention of sensation, facial paralysis, visual troubles, inequality of the pupils, paralysis of the sphincters, and no loss of tendon reflexes. The condition might at first have been mistaken for that of acute meningitis, later for encephalitis or small hæmorrhages involving the motor centres. But recovery is against both hypotheses. The retention of sensibility, the facial paralysis and that of the sphincters, as also the ocular trouble, distinguish the condition from hysterical hemiplegia. The third case quoted was that of an hysterical woman, and the hemiplegia was accompanied with anæsthesia; but here also there were noted facial paralysis, inequality of the pupils, and aphasia, which was quite distinguishable from nervous mutism, so that there could be no mistake about the diagnosis—hemiplegia complicating influenza.

Successful Laparotomy for Revolver Wound of the Abdomen in a Pregnant Woman.

M. Albarran presented to the Société de Chirurgie on the 27th ult. a young woman aged nineteen years who was admitted to the Hôpital Cochin for a bullet wound in the umbilical region at a spot four fingers' breadth from the median line. Five hours and a half after the receipt of the wound she had vomited only once—during her removal to hospital. The patient was collapsed, and there was ascertained to be some dulness at the lower part of the abdomen. A penetrating wound with internal hæmorrhage was diagnosed, and immediate laparatomy was had recourse to. During the preparations for the operation the state of the breasts led to a vaginal examination, and a pregnancy advanced to from the fourth to the fifth month was detected. Four wounds of the small intestine, necessitating the resection of twenty centimetres of the bowel, were seen directly the abdomen was opened; a fifth intestinal wound was sutured, and search for the source of hæmorrhage which continued revealed a perforation of the mesentery involving a branch of the superior mesenteric artery, which was tied. The fundus of the gravid uterus was the seat of a small wound through which protruded a loop of the umbilical cord. Wishing to terminate the operation promptly, M. Albarran resected the loop on a level with the uterine surface, the stump being returned into the uterine cavity. The abdominal incision was then quickly closed. The next day abortion took place, but nothing of interest occurred afterwards to retard complete recovery.

March 12th.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

The Mayor of Berlin on Löffler's Bacillus.

IN America when diphtheria is prevalent the bacteriological examination of suspected cases is made in municipal laboratories free of charge. The medical club of the Luisenstadt quarter accordingly asked the municipality to follow the example of America and to make similar arrangements in Berlin. In the name of the town council the mayor answered that there was no need for this examination, as it was not yet proved that Löffler's bacillus is really the sole cause of diphtheria. In the *Medical Reform* a medical man asks ironically if the mayor would be acknowledged as an authority on bacteriological questions, and, if not, on whose advice it was that he formed his opinion on the etiology of diphtheria. The other medical journals join in blaming the mayor for his peremptory and not over-polite answer. The question will now be taken up by the "medical stores," an establishment similar to the Army and Navy Stores, where the members of the profession can obtain medical articles at lower prices than in the ordinary shops. The directors of these stores now undertake general bacteriological examination. Practitioners who desire to have their cases investigated procure from the stores pieces of sterilised cotton-wool packed in small sterilised glasses. A bit of the cotton-wool is to be pressed on the suspected membranes, then put back into the glass, and sent in a small box to the laboratory of the stores, where the examination is performed by a specially appointed bacteriologist. The practitioner receives an answer on the following day. This system of providing for the profession an easy means of bacteriological examination in doubtful cases is very good, but as it is carried on by a private establishment the work, of course, cannot be done gratuitously. Although the charge of three marks is very moderate, it is still much too high for the poorer classes. It is, therefore, to be hoped that the mayor and town council may change their opinion as to Löffler's bacillus and provide for these investigations, a course which will be of the greatest advantage for the health of the population.

Improvements in Hospital Construction.

At the last meeting of the Berlin Hygienic Society (Gesellschaft für öffentliche Gesundheitspflege) Herr Schmieden, a leading hospital architect of Berlin, read a paper on Recent Progress made in Hospital Construction. He said that the pavilion system was now generally adopted throughout the world, even in countries like Russia, where the cold climate seemed to be an obstacle. Wood, which at first was often employed, is now completely abandoned, and only stone is used. Formerly the pavilions had but one floor, a system which requires much space; now they often consist of two, and in British hospitals even of three or four storeys, a design which not long ago would have been regarded as unhygienic. The usual ground plan is the rectangular one; there are a few exceptions where the want of space induced the architect to build circular pavilions. But this form, Herr Schmieden said, should not be generally accepted because it looks very ugly and makes a proper distribution of the buildings very difficult. Among recent buildings the new municipal hospital of Hamburg, one of the largest in the world, which contains 1500 beds and has no fewer than fifty-eight pavilions, is the most remarkable. Herr Schmieden especially mentioned the day rooms with their glass sides, which can be let down in warm weather, so that the room then forms an open balcony. All the arrangements for heating, ventilation, &c. are excellent. The operation rooms are models of their kind. They were built and furnished in accordance with the ideas of Dr. Schede, the chief surgeon, and consist only of iron, glass, and Dutch tiles, without any woodwork. Another new hospital which invites the attention both of medical men and architects is the Kaiser Friedrich Hospital for Children in Berlin. Special efforts have been made in the diphtheria pavilion to isolate the mild cases from the serious ones, and both of them from the convalescents. For this purpose the pavilion has been built in a novel way, which Herr Schmieden termed the "stage system." The building consists of three distinct parts, which are completely separated each from the other. The patients are received, according to the degree of the illness, in one of the first two wards. When the acute stage of the disease is over they come into the convalescent ward, from which they are discharged without entering any other portion of the edifice. The physician and nurses live in the diphtheria pavilion and never come to the other parts of the hospital. This is, Herr Schmieden said, of the utmost importance, as in other hospitals infection has often been conveyed by the nurses of the different wards living together. Herr Schmieden then drew the attention of the meeting to the great Policlinico Umberto in Rome, which all visitors to the last International Congress will remember. This hospital, designed for 900 patients, will cost 20,000,000 lire. The ground floor of the pavilion consists of open halls and not of sick wards, those being only on the first and second floors. This arrangement, Herr Schmieden said, is a very good one in hot climates, but it requires a great deal of space. A novel feature has been introduced in the operation room. To avoid infection the operations are performed in a sort of glass cage, so that the professor can be seen but not heard by the students who are in the room outside the cage. The architect then, speaking of England, said that the cost of hospital building was much higher there than on the Continent. In Germany a

[1] Académie de Médecine, March 5th.

Sum of 4000 marks per bed is accepted as a rule, while in England 8000 marks are not thought too much. In England the rooms for the nurses, the bath-rooms, the day-rooms, &c. are furnished with a comfort nearly unknown in our general hospitals. Herr Schmieden finished his discourse with the remark that satisfactory results in hospital building can be obtained only by the collaboration of architects and physicians. The meeting was very well attended and the address greatly applauded.

March 11th.

VIENNA.

(FROM OUR OWN CORRESPONDENT.)

Vienna Medical Society.

AT the last meeting of this society Professor Wagner spoke of the beneficial influence apparently exerted on mental alienation by an acute disease appearing in the course of it. Recovery has been observed after typhoid or intermittent fever and arthritis. The younger the patient and the shorter the period since the beginning of the mental symptoms the more advantageous is the effect of the febrile disease. Manthner has observed that atrophy of the optic nerve was cured by intercurrent small-pox. Leidesdorf experimented with transfusion of blood in cases of melancholia. In 1892 Professor Wagner saw a boy affected with muscular atrophy who contracted typhoid fever; some two months after this illness he recovered entirely from the muscular atrophy. The discovery of tuberculin provided Professor Wagner with a remedy capable of producing fever without the risk of an infectious disease. He proceeded by inducing a rise of temperature (not more than 3° F.) by means of injection, and obtained very gratifying results. The increase of body weight was a proof of the harmlessness of this remedy. The mental symptoms were never aggravated after the injections.

Death of Dr. Lorinser.

Dr. Lorinser, the late director of the Wieden Hospital, has died at the age of seventy-eight years. He was the first who proved the noxious effects of phosphorus on the maxillary bones of persons employed in match manufactories. His works, "Treatment and Cure of Diseases of the Knee-joint" and "Diseases of the Vertebral Column," found universal acceptance. Dr. Lorinser, who was also an eminent botanist, held many obsolete and peculiar views; thus, he was a resolute opponent of vaccination and of mercurial therapeutics and did not believe either in hydrophobia or in the remedies used against it. In the deceased the poor lose a great benefactor, whose name is everywhere mentioned with gratitude and reverence.

The "Rettungsgesellschaft" (Humane Society).

Since Baron Mundy's death this society has been in permanent difficulties; apparently it will not long survive its promoter. Like Count Montecuculi, the present manager, Dr. Charas, exclaims: "We want money, money, and still more money." Dr. Charas is an able and very agreeable man, but the Humane Society has lost a great many friends in consequence of painful incidents which took place some ten months ago. In fact, the only hope for the society is that the municipality may assume the control of it.

March 11th.

RUSSIA.

(FROM OUR OWN CORRESPONDENT.)

The Entozoa of Finland and Russia.

DR. KLIMENKO publishes in the *Vratch* of last week a preliminary note upon the subject of the entozoa usually met with in Finland. His observations were made in the military lazaret in Helsingfors upon patients both of Finnish and Russian nationality, and both military and civil. As a result of these observations, which extended to 1427 persons, it was found that among the Finns the ova of various forms of entozoa could be demonstrated in the dejecta of as many as 29·29 per cent. of the total. Among the inhabitants of Helsingfors the percentage in whom ova could be found was as high as 29·43. This, however, is lower than what was found to be the case in St. Petersburg and Moscow, where Kessler has shown the percentages to be respectively 32·48 and 36. In Helsingfors by far the commonest form of intestinal parasite is the tapeworm (25·2 per cent. of the total number of patients), while in St. Petersburg tapeworm ova were present in only 7·83 per cent., and in Moscow in 8·9 per cent. of the total numbers examined. The Finnish soldier is apparently more liable to worms than the Russian soldier, in the proportion of 30·71 per cent. to 27·5 per cent. In the case of the Finns, the ova met with are almost invariably those of tapeworms, round-worms being almost unknown; while among the Russian soldiery in more than half the cases the ova are those of the round-worm. Dr. Klimenko promises to publish full details of his observations later.

A New Method of spreading Syphilis.

The methods by which syphilis is spread among the peasantry in Russia are numerous, as the following incident shows. Within eighteen months Dr. Karakoz met, in one and the same village in the interior, with three cases of primary syphilitic sore upon the eyelids. This led to inquiry and it was found that there were certain old women in the village to whom anyone with a speck of dust or other foreign body in the eye was in the habit of going, and that their method of removing the foreign body was by licking it out of the eye with the tongue. Three such old women were found and examined at the dispensary; two of them were found to be healthy, but the third had syphilitic ulcers upon her tongue and elsewhere. She herself ascribed the disease in her own case to her having licked the eye of a girl, who, from the description given, was clearly syphilitic. Whether the occurrence of primary sores upon the eyelid in Russia is always, or even usually, to be ascribed to this objectionable practice it is impossible to say, but they are not uncommonly met with in that situation. Thus Dr. Poliakof, reporting a case in the *Journal of Ophthalmology* in 1893 (and his case was caused in a similar manner), stated that this was the thirty-fourth case recorded in Russian literature.

New Clinique in the University of Moscow.

A new clinique for skin diseases was opened in the Moscow Clinical Hospital on Feb. 19th (old style), a day of days in the Russian calendar, being the anniversary of the emancipation of the serfs, which took place in the year 1861. The clinique has been built with money left to the hospital by M. Solodovnikof. At the opening Professor Pospièlof, after whose plans the clinique is built, gave a brief history of the teaching of dermatology in Russia. So recently as twenty years ago there was but one clinique for skin diseases in the whole of Russia—namely, at the Army Medical Academy in St. Petersburg. In Moscow University there has for some time been a lectureship in dermatology, but for clinical purposes the university has had to use the wards of the Miasnitzkaia Hospital.

A New Russian Journal.

The new *Journal of the Society of Russian Practitioners in Memory of Pirogof* will shortly appear, as it is already announced in the *Government Gazette*. It will be edited by Professor Korsakof of Moscow, and will not have to be submitted to the censors before publication.

NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

The Drink Problem.

A COMMITTEE of fifty, of which the President of Columbia College is president and Dr. J. S. Billings of the United States Army is secretary, has been organised for the purpose of exhaustively studying the "drink problem." To determine its physiological and pathological aspects a circular has been issued containing the following inquiries. 1. Is the regular consumption of a moderate quantity of whisky, wine, or beer conducive to the maintenance of health and working power in any class of men? If so, in what class, and is the average quantity useful? 2. What is the quantity of whisky, wine, or beer which the average man in good health may consume daily without special risk of injuring his health? Does this vary in connexion with variations of age, of climate, or of occupation, and what are those variations? For the purpose of securing trustworthy evidence the committee are endeavouring to collect statistical information. With this object in view the following questions have been addressed to a large number of men in various

parts of the country who are above forty years of age and are engaged in mental work of a high class; the list includes the names of judges, lawyers, scientific and medical men, bankers, financiers, managers of corporations, &c.: Are you a total abstainer? Do you drink spirits, wine, or beer every day as a matter of habit? Are you aware of any chronic disturbance of your health?

Cornell Brain Association.

At a recent dinner of the *alumni* of Cornell University the following "form of bequest of brain" was presented from the professor of anatomy: "I ....., now of ....., student of Cornell University from ..... 18 ..... to ..... 18 ....., and graduated in 18 ....., recognising the need of studying the brains of educated persons rather than those of the ignorant, criminal, or insane, in order to determine their weight, form, and fissural pattern, the correlations with bodily and mental powers of various kinds and degrees, and the influences of sex, age, and inheritance, hereby declare my wish that at my death my brain should be intrusted to the Cornell Brain Association (when that is organised) or (pending its organisation) to the curator of the collection of human brains in the museum of Cornell University, for scientific uses, and for preservation, as a whole or in part, as may be thought best. It is my hope that my family and friends may not oppose the fulfilment of this my earnest wish." The enthusiasm of the evening, however, was so great that very few of the circulars were examined by the New York *alumni* at their dinner, and probably not one of them was signed.

Traffic in Antitoxin.

The sale of antitoxin of a spurious quality is creating considerable discussion as well as alarm. As the United States has no central health authority, on the opinion or judgment of which the people can rely in determining the value of the remedy, deception is not difficult. In the emergency a morning paper is raising a fund for the purchase and importation of the remedy of pure quality. Antitoxin has not gained general favour, and its failures have been attributed to the lack of genuineness of the article employed.

Feb. 25th.

AUSTRALIA.

(FROM OUR OWN CORRESPONDENT.)

Medical Society of Victoria

THE annual meeting of the Medical Society of Victoria was highly satisfactory. There was an exceptionally large attendance and the report of the committee stated that the attendance at all the meetings during the past year had been above the average. The treasurer's report showed a balance in favour of the society of £960. The election of office-bearers for 1895 resulted as follows:—President: Dr. Rothwell Adam. Vice-Presidents: Mr. F. D. Bird and Mr. J. T. Brett. Hon. treasurer: Dr. C. H. Mollison. Hon. librarian: Mr. J. H. Webb. Hon. secretary: Dr. A. J. Wood. Hon. auditors: Drs. Barker and G. Horne. Committee: Drs. Astles, Balls-Headley, Duncan, Grant, Gresswell, and Honman, and Messrs. Moore, J. P. Ryan, Stirling, and Syme.

Evolution and Medicine.

The retiring President, Dr. Gresswell, delivered a very long and thoughtful address on Evolution, deviating somewhat from the usual style of presidential addresses and selecting a theme which he thought required the assistance of those who deal with morbid structure operations for its complete demonstration, and which must needs react upon pathology and teach lessons to the profession. The biological arguments in favour of the doctrine of descent, as opposed to that of types, were then passed in review, with copious illustrations, which showed how intimate and profound was the speaker's knowledge of his subject. He then reminded us that comparative pathology is not necessarily evolutional, and that care is required lest we class as instances of evolution in disease pathological phenomena presenting mere similarity among different groups of organisms. Cervical fistulæ, cysts, and auricles, pinnal cysts and fistulæ, harelips and cleft palates, whether in man or animals, receive, the anti-evolutionist might say, ample explanation in ontogeny without recourse to phylogeny. Similarly with retained pupillary membranes, bifid uteri in women, the development of hair on the conjunctiva or mucous membrane of the mouth of man, of talipes equino-varus, and so on. Are there any abnormal conditions which do not receive satisfactory explanation by reference to ontogeny, but which do receive such explanation by reference to ancestral history? Dr. Gresswell suggested that the development of the anconeus quartus muscle, of the costo-coracoid fascia, and of an extra number of coccygeal vertebræ and muscles were really such conditions, but might not be universally admitted as such. He then described in detail a condition which he believed to be the only abnormality in man brought forward for explanation on phylogenetic grounds. The instance cited was that of the occurrence of an immense number of loose cartilages in the knee-joint, a reversion to what might be regarded as the primitive condition of the limb, homologous with the meta-pterygium of the selachian, in which there is a very large number of cartilaginous elements. Again, although the cells of enchondroma myxomatodes have the characters of the cells of the notochord, and so receive explanation in ontogeny, the stellate cells of some enchondromata are not to be observed in normal structures unless we descend to selachian forms. Another fact which might be regarded as throwing light on the doctrine of descent is that in ill health there are in the main only the mechanisms of health to fall back upon. The Darwinist would say that no advantage would accrue from the perpetuation of organisms that have lost their healthy form and function, and only such mechanisms have been evolved as are sufficient to meet temporary conditions of ill health. In illustration, Dr. Gresswell took the case of pain. Those organisms would have the best chance of survival in which hurtful sensations were disagreeable, but when the mechanism beneficent in health is continued during ill health, it is detrimental to the individual. For instance, the irritation of indigestible food causes attempts at its ejection and it may be got rid of; but let inflammation be set up and the attempts at ejection continue, but aggravate the inflammation, and may even cause death. Such a result is intelligible only on the doctrine of descent. Other illustrations of the same thing were given showing that pain and the anticipation of it are sensations of generic value, consisting of many species and varieties, and that though of advantage in conditions of health, and possibly in certain diseased conditions, it becomes, when intensified, a source of danger and of death.

Small-pox at Melbourne.

The steamer *Cloncurry* arrived at Port Phillip on Jan. 28th with small-pox on board. She left Calcutta on Dec. 23rd. On Jan. 3rd one of the lascar crew sickened with small-pox, and subsequently two others. They were landed at Fremantle, West Australia, on Jan. 17th, and at that port everyone on board was vaccinated. On Jan 19th a saloon passenger developed the disease, and becoming delirious jumped overboard. He was rescued and was none the worse for his immersion. Another case has developed since the steamer arrived, and was placed in quarantine. The passengers and crew have been revaccinated, and the ship and cargo thoroughly disinfected.

Typhoid Fever at Coolgardie.

Typhoid fever is alarmingly on the increase at the Coolgardie Goldfields, Western Australia. The Government and private hospitals are full, and steps are being taken to provide additional hospital accommodation. The sanitary arrangements are indescribable, so that with a deficient and very bad water-supply it is no wonder the disease is so rife.

Chloride of Lime in Snake-bite.

A child at Oakleigh, Victoria, was bitten by a snake, and died in spite of injections of chloride of lime and strychnine administered by Dr. Grant and Mr. Kenny.

Appointments.

The following have been appointed examiners to act with the professors and lecturers at the forthcoming medical examinations of the University of Sydney: anatomy, Dr. A. E. Mills; physiology, Professor Stirling; materia medica, Dr. A. Watson Munro; pathology, Dr. G. E. Rennie; surgery, Sir Alfred Roberts; medicine, Dr. Mackellar; medical jurisprudence, Dr. Ashburton Thompson; psychological medicine, Dr. F. Norton Manning; midwifery, Dr. James Graham; clinical medicine, Dr. Sydney Jones; clinical surgery, Dr. Fiaschi; ophthalmology, Dr. Murray Oram.—Mr. G. E. Miles, senior medical officer at Callan Park Hospital for the Insane, has been promoted to the post of medical superintendent of the Hospital for Insane at Newcastle; and Dr. R. S. Millard has been transferred to Callan Park.—Dr. G. H. Taylor has been appointed medical superintendent of the Coast Hospital at Little Bay, Sydney.

Obituary.

DANIEL HACK TUKE, M.D. HEIDELB., F.R.C.P. LOND., LL.D. GLASG.

IN our issue of last week we had the mournful duty of announcing the death of Dr. Hack Tuke. The following details of his life and estimate of his work will be of interest to his many friends and admirers. Daniel Hack Tuke was born at York on April 19th, 1827. He was the youngest son of Samuel Tuke and the great grandson of William Tuke, the founder of the York Retreat, whose work in connexion with the humane treatment of the insane was on the same lines as that of Pinel in France, though the two laboured independently of each other. Dr. Tuke was delicate as a child, but he was remarkable, even in those early days, for his high spirit, which seemed to carry him through his troubles in an unexpected way. Although his schooling was often interrupted by illness he was always busy with learning of some sort or other or investigating on his own account. As an instance of this early scientific spirit may be mentioned a journey to the woods with the household cat, which he there deposited in the hope of some day re-finding it as a wild cat. Samuel Tuke, his father, was a well-known Quaker, and his son was accordingly brought up in the family traditions, and in due time, when his health would allow, he attended as day scholar at a Friends' school. Later he went to another Friends' school at Tottenham, where he numbered among his schoolfellows some who have since become eminent. When his school education was finished he was thought to have such a legal mind that he was sent to Bradford to study law, but three months of this were quite enough for him, and he was at last allowed to begin the study of medicine, for which he longed. At about this time he seems to have held the post of steward at the York Retreat. He next came up to London, about the year 1849, entering at St. Bartholomew's Hospital. In 1852 he took the Membership of the Royal College of Surgeons of England, and in 1853 he graduated M.D. at Heidelberg. In this same year he married, and went abroad to visit the asylums of Holland, Germany, and France. In 1854 he published his first work, an account of these visits. He was now appointed visiting physician to the York Retreat and to the York Dispensary, and about this time he held the Lectureship of Psychology at the York School of Medicine. In 1857, on the death of his father, it was decided that the old family house in Lawrence-street, York, should be converted into a private asylum for ladies. This scheme, to which he looked forward with great eagerness, was frustrated by a serious attack of hæmorrhage from the lungs, which obliged him to give up practice entirely and to go south. After a year of wandering he settled in Falmouth, where he lived for fifteen years. Here, with improved health, he soon began to take active interest in town matters, such as the library, British schools, working men's club, &c., and at the same time he did much literary work, maintaining throughout the keenest interest in all things relating to psychology and the insane. In 1874 he came to London, where after a time he settled and gradually resumed practice, unable to resist the temptation so to do. Among his greatest pleasures at this time were his frequent visits to Bethlem Hospital, of which institution he subsequently became a governor; and when within the last year or two he was obliged on account of pressure of work to forego these visits he felt it as a great trial. In 1882 his eldest son, William Samuel Tuke, died at Bournemouth. This was a terrible blow to Dr. Tuke, who had set high hopes on his medical career, which, as many of W. S. Tuke's fellow students will remember, had promised brilliantly. Dr. Tuke subsequently took up his residence at Hanwell, where the proximity of the asylum proved a great attraction to him. Here he continued to reside till the time of his death, coming up to London daily to his consulting-rooms in Welbeck-street. It was at the latter place, just after his arrival on the morning of March 2nd, that he was suddenly seized with left-sided hemiplegia. After a few hours of incomplete consciousness Dr. Tuke gradually lapsed into a coma, which lasted till his death at four o'clock of the morning of Tuesday, the 5th.

DANIEL HACK TUKE, M.D., LL.D.

A prominent feature in Dr. Tuke's life was his indifference to the pleasures of the table; a meal would never stand between him and his work, and his family would alternately scold and smile at his ridiculous snatch luncheons of buns and glasses of ginger beer. Of Dr. Tuke's kindness of heart we think many must have a record. He was most genial and sociable by nature, and the meeting of his friends and colleagues was the chief attraction to him at social gatherings, which he invariably enjoyed. He liked to talk over matters of all kinds, but philosophical subjects and religious questions attracted him most outside the domain of medicine, and such readings and conversations were his relaxation. He was sometimes affectionately taxed by his home circle with being sentimental; but whilst it was quite true that "sentiment" was ingrained in his fibre, as many little relics and hoardings would testify, his nature was far too simple and honest to allow of anything that savoured of the unreal. He was rather fond of poetry — Tennyson and Whittier being, perhaps, his favourite authors. He was certainly a hero-worshipper, and when engaged in this cult would take minute pains to learn all he could about the object of his affection. Hampden was thus much in his mind when he was at Oxford last year. Dr. Tuke had many devoted friends amongst young men—he was so exceedingly kind to them and would help whenever he could. A letter written by a medical friend whom he valued much described him as possessing "the gift of inspiring friendship"—it was quite true.

In endeavouring to form a true estimate of the value of the work of Dr. Hack Tuke we cannot but feel that it is difficult at present to appreciate its various parts at their just value, but yet we think it is a proper time to note the nature and quantity of what he has done, and its apparent influence on English psychiatry. Dr. Tuke had a power of continued intellectual work such as is given to very few, and which we are almost inclined to say is given most commonly to those who are not physically robust; he worked regularly till the early morning hours in his study and yet was regular in his London professional work. He always got a clear notion of the end he was aiming at, and never rested or turned till he had reached it. Steady, persistent observation with methodical recording and arranging of facts was his chief power, for, though not, as we have hinted above, without poetical feeling and sentiment, yet he was not imaginative, and he was rather a receiver and a recorder than an originator. He was the cool-eyed observer of nature, and not the far-seeing prophet. We have heard him described as a scientific sponge, taking up greedily whatever was presented to him and rendering it back uncoloured by any personal tint. His memory for facts and details was till the end extraordinary, and a case once registered in his mind was always fit to be brought out for use when the proper occasion came. We believe that he

will live, if for no other work, as the historian of lunacy and its humane treatment in the nineteenth century. He knew the actors and their works personally, and in an absolutely truthful way gave the results. Dr. Tuke was not a clinical teacher, nor did he add much to the purely scientific medical knowledge of his specialty. He was a great reader of the works and observations of others and for years was a constant frequenter of the wards and the post-mortem room of Bethlem Hospital. We think that he expected to find more physical change than was generally visible to the naked eye and often left a necropsy with feelings of disappointment and yet with a hope that the time would come when the physical side of insanity would be more demonstrable. Kindly and considerate for all, his mind was a sort of balance for the weighing of scientific truth. No man and no man's work were better known all over the world, and he had visited most of the asylums in Europe and America, never losing a chance of picking up the threads which connected the present with the past. He knew the City of the Simple (Gheel) in Belgium and the secluded valley in Ireland where priest-healing had held sway. His holidays were combinations of the study of asylums with (insufficient) complete relaxation. As we have already said, he was judicial in the extreme, and though he might have strong personal feeling, by education or association, he was ever ready to hear the other side; thus, though a strong and persistent believer in non-restraint and in the humane treatment of the insane, he was quite able to see that cases might arise in which mechanical restraint might be the most humane treatment; and quite recently he expressed himself strongly that he hoped panic and sensational writing would not prevent the judicious use of baths and the pack. Dr. Tuke's earliest established work was in connexion with Sir (then Dr.) Charles Bucknill, and "Bucknill and Tuke" still holds its place as a monument of work. Later the "Influence of Mind on the Body" occupied him, and he always had a very strong personal affection for this book, which, though at its time of great value, has now been left behind. Yet it was an early record and comprised a collection of facts of great value. Though not imaginative, Dr. Tuke was a very thoughtful and careful student of hypnotism and lost no opportunity to see its legitimate development. Another special subject to which he devoted great thought and attention was moral insanity. He took a very definite position, in which he differed from some of his oldest friends, and to the end he believed in a form of insanity in which the social side was chiefly or altogether at fault, while the higher intellectual powers were intact or but slightly affected. He recently wrote a small book on the development of this idea by Prichard and Symonds.

For nearly eighteen years Dr. Hack Tuke bore the weight of editing the *Journal of Mental Science*, and no labour was too much for him to undertake and carry through for the perfect and exact editing of that journal. He not only carried out the ordinary work, but added an Index Medicus of great and lasting value. Friends believed that Dr. Tuke's hands were already full, but yet he undertook the "Dictionary of Psychological Medicine," and, knowing exactly whom to get as assistants, he produced this splendid book, which must long be the text-book for all medico-psychological subjects. Dr. Tuke's life was not devoted only to book work; he was not forgetful of the patients in and out of asylums, and was one of the originators of the "After-care" Association for patients who, having left asylums, were not fit for full work, and who needed a kind of convalescent home where they could give evidence of their real fitness to return to their ordinary work. Dr. Tuke was chairman of this association at the time of his death. For years he was a regular attendant, not only at the courts of governors of Bethlem and Bridewell Royal Hospitals, but he attended the weekly committees and knew every patient who was admitted, and thus his life was full of work and thought. Of late years with all this work he was a busy consultant whose opinion was regarded as of the first value. He did too much, but he would himself have chosen to die in harness. No one can tell the amount of good he did by that influence which is only recognised when it is lost, but the younger men in the special branch of medicine to which he was attached looked upon him as the "grand old man."

He was a representative man in the special sphere of work to which he had devoted, and even sacrificed, all his life and energies, and it is difficult to see who is to fill the gap which his death has caused amongst the practical workers in medical psychology. The simplicity of his funeral was in keeping with that of his character, and it was felt by all his colleagues who attended on that occasion that the grave had closed over all that was mortal of a worthy, loved, and highly esteemed brother.

CHARLES H. ROBINSON, M.R.C.P., F.R.C.S. IREL.

IT was with deep regret that the friends of Mr. Charles H. Robinson heard of his death, which took place at his residence, De Vesci-place, Kingstown, county Dublin, on the 1st inst., after only two days' illness. There were few men better known in Ireland in the profession, and his kindness of disposition and professional courtesy endeared him to all with whom he came in contact, whilst his practical ability was of an advanced order. Mr. Charles Robinson was born in Dublin on Jan. 19th, 1839, and was the second son of the late William T. Robinson, Comptroller of Her Majesty's Stationery Department, Ireland. He received his education chiefly at the Rev. Robert Boyle's school, Lower Leeson-street, Dublin, and his professional training in the College and Ledwich Schools, and the Adelaide and several special hospitals. He was qualified before he reached his twentieth year. He very soon afterwards went to Egypt, and on his return was appointed surgeon in the Peninsular and Oriental Steamship Company's service and on the Cape Mail steamers, where he was invariably held in the greatest esteem and respect by all on board. Returning to Ireland, he commenced practice as a physician in Dublin, where he obtained much eminence. In 1861 he became a Licentiate of the Royal College of Surgeons in Ireland, and a Fellow in 1873. In 1862 he obtained the licence of the Royal College of Physicians of Ireland, and the Membership shortly after that qualification was instituted. From 1872 to 1881 he lectured on Anatomy at the Ledwich School, in which he subsequently taught Botany and Zoology. He was for many years one of the proprietors of the Ledwich School of Medicine and Surgery and medical examiner to an insurance company. For a very long period he was one of the special correspondents in Ireland of THE LANCET. His name appears in Ziemssen's Encyclopædia of Medicine and his contributions to medical journals were numerous and of great merit. Among them may be mentioned: Asiatic Cholera treated by large doses of Calomel (*Dub. Med. Press*, 1886); Notes on a case of Traumatic Tetanus; Recovery (THE LANCET, Sept. 7th, 1867); Cases of Ague with Extensive Desquamation of the Cuticle (*Brit. Med. Jour.*, 1868); Remarks on Night-blindness, with notes of a case (THE LANCET, May 30th, 1868); Cases of Acute Rheumatism treated principally by the Alkaline Method (THE LANCET, June 12th, 1869); On Scarlatina sine Eruptione (THE LANCET, Feb. 12th, 1870); Herpes Circinatus treated by Local Astringents (*Practitioner*, 1870); Cases of Measles associated with Hæmorrhagic Variola (*Dub. Jour. of Medical Science*, 1872); Rheumatic Pneumonia (*Brit. Med. Jour.*, 1876); Cirrhosis of the Liver: Alcoholic Paralysis (*Brit. Med. Jour.*, 1877); Bulbar Paralysis (THE LANCET, Oct. 19th, 1878); Hystero-Epilepsy (*Brit. Med Jour.*, 1878).

In 1886 Mr. Robinson was appointed Examiner in Anatomy, Physiology, Materia Medica, &c., in the Royal College of Surgeons in Ireland. He was consulting surgeon to the Carogh Orphanage and a Fellow of the Royal Academy of Medicine in Ireland. He was much interested in the Masonic order. He was a member of the British Medical Association and had intended to go to the meeting in London this year. He was fifty-five years of age when he died, and, as already said, was most kind and painstaking both in his medical duties and in the ordinary affairs of life.

CHARLES EDWARD ARMAND SEMPLE, B.A., M.B. CANTAB., M.R.C.P. LOND., L.S.A.

DR. CHARLES E. ARMAND SEMPLE, whose death we briefly announced last week, took his B.A. and M.B. degrees at the University of Cambridge in 1872, and obtained the Membership of the Royal College of Physicians of London in 1894, having received his medical education at St. George's and the Middlesex Hospitals. Dr. Semple was well known as the author of numerous useful handbooks for students, and a few years back he brought out "Elements of Materia Medica and Therapeutics," a book well up to date and full of excellent illustrations. At the time of his death Dr. Semple

was secretary to the Court of Examiners at the Apothecaries' Hall, a post he had filled for several years and the responsible and multifarious duties of which he had discharged in a way that obtained much commendation. He was punctual and accurate in his work, and to his unvarying courtesy of manner all members of the examining board will readily bear witness. Dr. Semple held the post of physician to the Bloomsbury Dispensary and to the North-Eastern Hospital for Children. Originally a very strong man and active as an oarsman while at Cambridge, of late Dr. Semple had failed much in health, and a troublesome affection of the throat and larynx that quite destroyed his splendid singing voice depressed him greatly. Though weak and ill he stuck to his work at the Apothecaries' Hall, greatly against the advice of his colleagues there, who urged upon him the necessity of rest from all labour. When last present with the Court of Examiners he expressed himself as feeling better in health, but a few days later a most severe form of influenza with alarming cardiac failure seized him, and despite all that could be done he died at his residence at Harrow on Tuesday, March 5th, leaving a widow and five young children. His numerous friends will sympathise with them in the sad loss which they have so prematurely sustained.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The death of the following eminent foreign medical man is announced:—Dr. W. Detmold, one of the oldest surgeons in the United States, he having been born in Hanover in 1808. He was the son of the King's body physician. In 1837 he went to New York, where he occupied himself mainly with orthopædic surgery. During the civil war, however, he played an active part in the organisation of the medical department of the Northern army.

Medical News.

FOREIGN UNIVERSITY INTELLIGENCE. — *Gratz:* Dr. J. Loos has been recognised as *privat-docent* in Children's Diseases.—*Palermo:* Dr. Chiarleoni of Catania has been appointed Professor of Clinical Midwifery.—*Parma:* Dr. Corona of Sassari has been appointed Professor of Physiology.—*Prague (Bohemian University):* Dr. Janovsky has been promoted to the Ordinary Professorship of Dermatology and Syphilography.—*Tomsk:* Dr. F. Krüger of Dorpat has been appointed Professor of Chemistry.

FOOTBALL CASUALTIES.—On Saturday last the following accidents occurred. During the progress of a match at Whalley Range, a youth, aged seventeen years, fractured his leg, and was admitted to the Manchester Royal Infirmary.—In the course of the Lancashire Championship match, at St. Helens, between the St. Helens and Oldham teams, the St. Helens full back sustained a fracture "of one of the bones in the back of the hand."

PRESENTATIONS.—Dr. Joseph Griffiths Swayne of Clifton, Bristol, on the occasion of a complimentary dinner given to him last month, was presented with a service of plate in appreciation of his fifty years' valuable work at the Bristol University College and as a medical teacher in that town. Engraved on one of the pieces of plate is the following inscription: "Presented with a service of plate to Joseph Griffiths Swayne, M.D., Emeritus Professor of Midwifery in University College, Bristol, by his colleagues, friends, and former pupils, as a mark of their personal esteem and in grateful recognition of his eminent services in the teaching of obstetric medicine and gynæcology in the Bristol Medical School and University College, Bristol, during the long period of fifty years." Dr. Swayne's work, "Obstetric Aphorisms," has been translated into eight languages.—Mr. A. Hope Walker, L.R.C.P. Lond., M.R.C.S., of Cranleigh, has been the recipient of a handsome silver-mounted gig whip from the Cranleigh ambulance classes as a small acknowledgment for his instruction on first aid.—Dr. John MacCombie, medical superintendent of the South-Eastern Hospital, New-cross-road, has been presented with his portrait by the principal officers and charge nurses in commemoration of the opening of the home for nurses, at the hospital, and as a token of their esteem.

THE DENTAL HOSPITAL OF LONDON. — The thirty-seventh annual meeting of this institution was held at the hospital on Wednesday, March 13th, Mr. Henry Harben, a vice-president, in the chair. The report, which was read, was unanimously adopted. The special appeal issued for the necessary funds to build a new hospital has realised £11,223 16*s.* 4*d.* The value of the present site is estimated at £15,000 to £20,000 (but this sum cannot be realised until the new building is erected), making together about £26,000, and as it has been estimated that the cost of the site and the new hospital will be about £40,000, there remains a balance of £14,000 to be collected, which sum the committee have no hesitation in asking the public to speedily contribute.

CHESTERFIELD HOSPITAL.—The Chesterfield and North Derbyshire Hospital appears to occupy an unusual position, inasmuch as it is, by the terms of its constitution, debarred from receiving patients in need of medical treatment, its benefits being reserved for surgical cases only. This anomaly, though upheld and defended by the governing body, has long been apparent to the townspeople, and various unsuccessful attempts have been made to remove it. In prospect of a renewal of these endeavours the governing body have published their views of the question, calling attention especially to Rule 2 of the hospital, which is as follows: "The hospital shall be open to receive only those persons who require surgical treatment: cases of disease or sickness in any form, and chronic cases, shall be excluded." They, moreover, point out that the creation of a medical department implies two additional wards, one for each sex, and further accommodation for the extra nurses and servants who would be employed. This extension is impossible from want of room on the present ground, and to raise the height of the existing buildings is inadvisable "having regard to the probability that the site has been undermined."

MANCHESTER MEDICAL SOCIETY.—A meeting of this society was held on March 6th, the President, Mr. F. A. Southam, being in the chair.—Dr. Moritz showed a case of Agglutination of the Vocal Cords. There was complete adhesion of the vocal cords occurring in a woman aged twenty-four, who came under observation six months ago suffering from great dyspnœa and aphonia. The vocal cords were then found coherent in their anterior two-thirds, but there were no other cicatrices or ulcers visible in the larynx. Some white scars, however, on the palate, the consequence of an ulceration from which the patient had suffered three years ago, pointed to the syphilitic origin of the affection. On account of the urgent dyspnœa tracheotomy was performed, and when examined a week later the glottis was found entirely occluded by the complete agglutination of the vocal cords. Though this had been incised several times and dilated with Schrötter's catheters the opening always closed up again in a few days. Dr. Moritz mentioned that he intended now, after making a fresh incision, to introduce a modified O'Dwyer's tube, and if the result should not be satisfactory thyrotomy and excision of the cicatricial tissue will be performed.—Dr. Ernest S. Reynolds showed a series of thirty-three lantern slides illustrating various cases of Nervous Disease.—Dr. Leech read a paper on the Causes of Death in Pneumonia.

BRADFORD MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on March 5th, Dr. Adolph Bronner, Vice-President, in the chair.—Mr. Horrocks showed a specimen of Sarcoma of the Femur taken from a woman aged sixty-one.—Dr. Major showed a Cerebellum containing a large Cyst, and read notes on the case. The patient, aged eleven years, came under Dr. Major's care in September, 1894, and died on Oct. 18th. The symptoms noted were headache, vomiting, interference with power of locomotion—going on to inability to walk,—failure of sight, and emaciation. On admission into the infirmary there were double optic neuritis, passing on to atrophy, mental apathy, and a tendency to fall backwards on standing. The knee-jerks were diminished on both sides. There was no paralysis. On post-mortem examination a cyst containing two ounces of clear fluid was found in the left cerebellar hemisphere. There were no signs of hydatid disease. Dr. Major referred to the rarity of these cases and discussed the origin of the cysts.—Mr. Althorp read notes on some cases of Cerebellar Cysts.—Dr. A. Bronner read a paper on Some Reflexes of Nasal Origin.—Dr. S. A. Shiach read a paper on Microcephalic

Idiocy, with notes on two cases, and showed photographs of the two patients. The morbid anatomy of this condition was discussed, and the propriety (or otherwise) of craniotomy was gone into. The clinical history of the two cases was fully given.

Parliamentary Intelligence.

NOTES ON CURRENT TOPICS.

Proposed Registration of Architects.

A BILL of forty-four clauses and four schedules has been introduced into the House of Commons for the purpose of setting up a system of registration for architects, and thus enabling persons requiring professional aid in architecture to distinguish qualified from unqualified practitioners. In the first place it proposes to establish, in a manner somewhat similar to that adopted in the case of the medical profession, a General Council of Architectural Education and Registration of the United Kingdom, with branch councils for England Scotland, and Ireland. Like the General Medical Council, this new body will have the custody of the register and draw fees for registration, and it is empowered, if it has money to spare, to apply it to the support of museums, libraries, or lectureships, or for public purposes connected with the profession of architecture, or to the promotion of learning and education in connexion with architecture. In the clause dealing with removal from the register the framers of the Bill adopt from the Medical Act the phrase "conduct infamous in a professional respect." As to the qualifying examination, it is said: "The standard of proficiency required from candidates at the said qualifying examinations shall be such as sufficiently to guarantee the possession of the knowledge and skill requisite for the efficient practice of architecture, and it shall be the duty of the General Council to secure the maintenance of such standard of proficiency." Arrangements are made in the Bill for the registration of colonial and foreign practitioners.

The Select Committee on the Unemployed.

Following out the instructions given them at the time of their appointment, this committee have presented to the House of Commons an *interim* report. In this document an account is given of the steps already taken by the committee to procure evidence of the distress in the country arising from want of employment and of the measures adopted for its relief, and later it is said:—

"It is abundantly clear that, while over a great part of the country no lack of employment has prevailed beyond that which might be expected as a consequence of an unusually severe winter, there is and has been during the present severe weather much grave distress, affecting workmen ordinarily in regular work, as well as those whose employment is always liable to be intermittent, and that much suffering has been caused by this distress in many parts of the country; and there are, without doubt, many places where, underlying the distress due to weather, there exists a chronic want of employment of labour which will remain in force after milder weather has opened the out-door trades. Your committee, therefore, feel that it would have been most desirable had they been able, apart from the general inquiry which you entrusted to them, to make some recommendations applicable to the present juncture. But any such recommendation must satisfy two conditions: (*a*) it must be immediately applicable during the remaining weeks of the winter season; (*b*) it must be such that Parliament might be reasonably expected to accept it, or even take it into serious consideration, without further inquiry into the facts upon which it is founded or the principle it embodies. It is with full regret that your committee find that no plan has been suggested to them which fulfils these considerations."

In these circumstances the committee propose that they should proceed with their inquiry without making any recommendation at this time.

Food and Drugs Adulteration.

The committee on this subject, which began its inquiry last year, has been reappointed. It held its first meeting on Tuesday, March 12th, when it again elected Sir Walter Foster as its Chairman, and decided to resume the examination of witnesses on Tuesday, March 19th.

HOUSE OF COMMONS.

THURSDAY, MARCH 7TH.

Dangerous Trades under the Factories Act.

Mr. KNOX addressed a question to the Home Secretary as to what trades or processes of trade have under Section 8 of the Factories Act, 1891, been certified by him as dangerous or injurious to health or dangerous to life and limb.—In his reply Mr. ASQUITH mentioned the following—viz., the manufacture of white, red, orange, and yellow lead, smelting and enamelling works, the manufacture of colours, lucifer matches, and earthenware, certain processes in the manufacture of explosives, chemical works, electric accumulator works, flax mills, linen factories, brass mixing and casting, and quarries. The clause in the new Bill empowering the Secretary of State to prohibit the employment of women or children or young persons is directed, said Mr. Asquith, to the case of trades where, from the nature of the industry itself, whatever precautions may be taken to ensure the safety of those concerned, particular processes cannot be carried on by particular classes of workers for reasons of age or sex without running exceptional risks to life or health.

FRIDAY, MARCH 8TH.

London University.

In Committee of Supply a small supplementary vote was asked for London University, and Sir Albert Rollit took advantage of the opportunity to press the Government for an increase in the annual grant to the University. The hon. member called special attention to the need for new laboratories.—The Chancellor of the Exchequer, while admitting the reasonableness of the demand, said that the state of the public funds did not enable him to meet it.—Sir Julian Goldsmid, who is a member of the Senate of the University, said that the fees for the students who were examined exceeded in amount the cost of the examinations, so the Treasury actually made profit out of the transaction and ought to be prepared to increase the grant. Other members having pressed the matter, the Chancellor of the Exchequer spoke again and promised to assist the University on the earliest opportunity.

MONDAY, MARCH 11TH.

Rabies in Dogs.

Mr. Herbert Gardner, answering a question put by Major Rasch, said that the number of cases of rabies in dogs during the six years 1889, 1890, 1891, 1892, 1893, and 1894 had been 312, 129, 79, 38, 93, and 248 respectively. Practically the whole increase in 1894 as compared with 1893 had been in the two counties of the West Riding of Yorkshire and Lancashire, and the Board of Agriculture had constantly been in communication with the local authorities in those counties as to the measures to be taken to bring about a more satisfactory position as regards this dangerous disease.

The Medical Division of the War Office.

Mr. Hanbury asked the Financial Secretary to the War Office whether he was now in a position to state the result of the inquiries promised during the debate on the medical vote last year into the distribution of the duties of the medical division of the War Office.—Mr. Woodall replied that the Secretary of State had made full inquiry into the distribution of the work in this division and satisfied himself that the professional officers and the civilians were appropriately employed on professional and clerical work respectively. Medical officers who were necessarily changed frequently could not properly discharge the duties which devolved upon the principal civilian clerk.

TUESDAY, MARCH 12TH.

Deaths from Starvation.

In reply to a question, Mr. Asquith said that the return of deaths from starvation was at present in the hands of the printers, and would be issued as soon as possible. A considerable correspondence between the Local Government Board and boards of guardians respecting certain cases in the return was necessary before the matter could be got ready for the printers.

The Tuberculosis Commission.

Sir John Hibbert, answering a question put by Mr. Hayden, said that the total cost of this Commission might be put approximately at £7500. This amount included £4672 for special scientific investigations and an estimated expenditure of £660 on printing. He understood that the proceedings of the Commission would not extend beyond the present financial year.

Drainage of London Barracks.

Lord Stanley inquired of the representative of the War Office when the drains of Chelsea Barracks, Wellington Barracks, St. George's Barracks, and Kensington Palace Barracks were last inspected, and Mr. Woodall replied that apart from the ordinary quarterly barrack inspections, when defects are reported and remedied, no special report on the drains of these barracks had been necessary, as nothing had occurred to arouse suspicion as to their sanitary condition.

BOOKS ETC. RECEIVED.

BAILLIÈRE, J. B. et FILS, Paris.

Leçons Cliniques de Chirurgie Orthopédique. Par le Dr. Phocas. 1895. pp. 524.

La Pratique des Opérations Nouvelles en Chirurgie. Par A. Guillemain. 1895. pp. 334.

BAILLIÈRE, TINDALL, & COX, King William-street, Strand, London.

Indigestion: An introduction to the study of the Diseases of the Stomach. By Geo. Herschell, M.D. Lond. Second Edition. 1895. pp. 343. Price 5*s.* net.

Aids to Surgical Anatomy. By E. S. Yonge, M.B. Edin. 1895. pp. 158. Price 2*s.* 6*d.*

Clinical Lectures on the Prevention of Consumption. By William Murrell, M.D., F.R.C.P. 1895. pp. 103. Price 3*s.* 6*d.*

CHURCHILL, J. & A., New Burlington-street, London.

The Westminster Hospital Reports. Vol. ix. 1895. Price 6*s.*

Abdominal Tumours and Abdominal Dropsy in Women. By James Oliver, M.D., F.R.S. Edin. 1895. pp. 289. Price 7*s.* 6*d.*

A Pharmacopœia, including the outlines of Materia Medica and Therapeutics, for the use of Practitioners and Students of Veterinary Medicine. By the late R. V. Tuson. Fifth Edition. By Jas. Bayne, F.C.S. 1895. pp. 370. Price 7*s.* 6*d.*

The Insane and the Law. By George Pitt-Lewis, Q.C., R.P. Smith, M.D., F.R.C.P., and J. H. Hawke, Barrister-at-law. 1895. pp. 432. Price 14*s.*

COLEGROVE, E. H. & Co., Chicago.

Blood Serum, Therapy and Antitoxins. By G. E. Krieger, M.D. Illustrated. 1895. pp. 69.

CONSTABLE, J. & A., Edinburgh.

Transactions of the Eighth International Ophthalmological Congress. Held in Edinburgh August, 1894. pp. 352.

FANNIN & Co., Dublin; BAILLIÈRE, TINDALL & COX, London.

Transactions of the Royal Academy of Medicine in Ireland. Vol. xii. 1894.

HEINEMANN, WM., London.

Degeneration. By M. Nordau. Translated from the second edition of the German work. 1895. pp. 560. Price 17s. net.

LEWIS, H. K., Gower-street, London, W.C.

Illustrated Lectures on Ambulance Work. By R. Lawton Roberts, M.D. Lond., D.P.H. Camb. Fifth Edition. With Illustrations. 1895. pp. 206. Price 2s. 6d.

LONGMANS, GREEN, & Co., London.

The Elements of Pathological Histology. With special reference to Practical Methods. By Dr. Anton Weichselbaum. Translated by W. R. Dawson, M.D. Dub. Illustrated. 1895. pp. 456. Price 21s. net.

Organic Chemistry; the Fatty Compounds. By R. L. Whiteley, F.I.C., F.C.S. 1895. pp. 291. Price 3s. 6d.

National Viands à la Mode. By Mrs. De Salis. 1895. pp. 92. Price 1s. 6d.

A Study of Influenza, and the laws of England concerning Infectious Diseases. By R. Sisley, M.D. Lond., M.R.C.P. 1892. pp. 119. Price 3s. 6d.

MACMILLAN AND CO., London.

The Pathology of Mind: a Study of its Distempers, Deformities, and Disorders. By Henry Maudsley, M.D. 1895. pp. 571. Price 15s. net.

A Course of Elementary Practical Bacteriology, including Bacteriological Analysis and Chemistry. By A. A. Kanthack, M.D., M.R.C.P., and J. H. Drysdale, M.B., M.R.C.P. 1895. pp. 181. Price 4s. 6d.

On Diseases of the Vermiform Appendix: with a consideration of the Symptoms and Treatment of the Resulting Forms of Peritonitis. By H. P. Hawkins, M.A., M.D. Oxon., F.R.C.P. 1895. pp. 139. Price 7s. net.

MASSON, G., Boulevard Saint-Germain, Paris.

Traité Élémentaire de Clinique Thérapeutique. Par Dr. G. Lyon. 1895. pp. 964.

Précis de Bactériologie Clinique. Par R. Wurtz. 1895. pp. 492.

PENTLAND, YOUNG J., Edinburgh.

Ectopic Pregnancy: its Etiology, Classification, Embryology, Diagnosis, and Treatment. By J. C. Webster, B.A., M.D., F.R.C.P. Edin. Illustrated. 1895. pp. 240.

REBMAN, F. J., Adam-street, Strand, London.

Obstetric Surgery. By E. H. Grandin, M.D., and Geo. W. Jarman, M.D. Illustrated. 1895. pp. 207. Price 14s.

RUEFF ET CIE, Boulevard Saint-Germain, Paris.

Traitement des Fractures par le Massage et la Mobilisation. Par Dr. J. Lucas-Championnière. 1895. pp. 564.

SWAN SONNENSCHEIN & Co., London.

Introductory Science Text-books. Introduction to Physiological Psychology. By Dr. Theodor Ziehen. Translated by C. C. Van Liew, Ph.D., and Otto W. Beyer, Ph.D. Illustrated. Second Edition. 1895. pp. 305.

A Student's Text-book of Botany. By Sydney H. Vines, M.A., D.Sc., F.R.S. Illustrated. 1895. pp. 821. Price 15s.

THACKER, W., AND CO., Newgate-street, London, E.C.

Anglo-Urdû Medical Handbook, or Hindustani Guide. Compiled by G. Small, M.A., Surgeon-General C. R. Francis, and Mrs. F. Nash, L.R.C.P. Edin. 1895. pp. 199.

THE SCIENTIFIC PRESS, Strand, London.

Report of the Proceedings of the International Congress of Charities, Chicago, 1893. Two volumes. 1894. Price 6s. net each.

THIN, JAMES, Edinburgh, and SIMPKIN, MARSHALL & Co., London.

Note-book of Materia Medica, Pharmacology and Therapeutics. By R. E. Scoresby-Jackson, M.D., F.R.S.E. Fifth Edition. Revised by J. R. Hill and R. Stockman, M.D., F.R.C.P.E. 1895. pp. 743.

WRIGHT, JOHN, & Co., Bristol.

The Medical Annual and Practitioner's Index. 1895. Thirteenth year. Price 7s. 6d.

Suggestions as to the Methods of Determining the Influence of Springs on the Temperature of a River, as illustrated by the Thames and its Tributaries; by H. B. Guppy, M.B.; reprint from the Quarterly Journal of the Royal Meteorological Society; vol. xxi.; No. 93; January, 1895.—The Absence of Sugar from Normal Urine, proved by a New and Simple Method; by Sir George Johnson, M.D., F.R.S.; reprint from THE LANCET, Jan. 12th, 1895.—Handbuch der Physiologischen Optik; von H. von Helmholtz; neunte und zehnte Lieferungen; 1895 (Leopold Voss, Hamburg und Leipzig).—An Epidermis of Materia Medica, Pharmacy, Therapeutics, and Collateral Information; January, 1895; by E. R., E. H., and C. F. Squibb (Brooklyn, New York).—Brain: a Journal of Neurology; part 69; Spring, 1895 (Macmillan and Co., London); price 3s. 6d.—List of the Fellows, Members, Extra-licentiates, and Licentiates of the Royal College of Physicians of London and of Holders of the Diploma in Public Health; 1895.—La Tubercolosi; periodico bimensile diretto dal Prof. E. Maragliano; anno iii. (F. Vallardi, Milano).—St. Mary's Hospital Gazette; February, 1895.—The Natural History of Plants; part ii. (Blackie and Son, London); price 2s. 6d. net.—Contributions to the Physiology and Pathology of the Nervous System; by Isaac Ott, M.D., Philadelphia; part xii.; reprint from the Journal of Nervous and Mental Diseases, Philadelphia, 1892-94.—Transactions of the American Dermatological Association, in connexion with the Congress of American Physicians and Surgeons; official report of the proceedings at the Eighteenth Annual Meeting held at Washington in May and June, 1894 (Geo. L. Goodman and Co., New York).—A Little Chat about Wine (Hohoff and Co., St. Peter's House, Clerkenwell-road, London, E.C.); 1895.—The Physician's Vade Mecum; by S. J. Wimmer, M.A., M.D., and F. S. Parsons, M.D. (The Medical Publishing Company, Philadelphia); 1894.—The Psychological Review, March, 1895 (Macmillan and Co., London).—Therapie der Harnkrankheiten; zehn Vorlesungen für Aerzte und Studirende, von Prof. Dr. C. Posner, Berlin (August Hirschwald, Berlin); 1895.—The Preservation of Health in the Far East: Hints as to Clothing, Food, and Residence in China; by W. P. Mears, M.A., M.D. (Church Missionary Society, Salisbury-square, London, E.C.); 1895; price 2s. 6d.—Food for the Sick and Convalescent; by Miss Mary Feachem, Bristol (Rose and Harris, Broadmead, Bristol); 1895; price 1s.—Re Pigmentum Chloralis Antisepticum; by Dr. John Broom, M.D. Brux. (Clifton, Bristol); reprint.—Magazines for March: The English Illustrated, Pall Mall Magazine, London Home, New London: Her Parliament and its Work, Illustrated (Edward Lloyd, Fleet-street, London), price 1s., Boy's Own Paper, Girl's Own Paper, Leisure Hour, Sunday at Home, Knowledge, Leeds Hospital Magazine.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, for publication in the next number.

AMBROSE, ALEX., M.D. Dubl., B. Ch., D.P.H. Camb., has been appointed Medical Officer of Health for the Urban Sanitary District of Buckhurst Hill.

AULD, ARCHIBALD, M.B., C.M. Glasg., has been reappointed Medical Officer of Health for the No. 3 Sanitary District of the Pontefract Union.

AWDRY, WALTER R., M.B. Durh., M.R.C.S., has been reappointed Honorary Medical Officer to the Berkeley Hospital.

BATTEN, R. W., M.D. Lond., F.R.C.P., M., M.R.C.S., has been reappointed Honorary Consulting Physician to the Berkeley Hospital.

BEAMAN, ERNEST H., L.R.C.P.I., L.R.C.S.I., has been appointed Medical Officer of Health for the Misterton Rural Sanitary District.

BEVERIDGE, A. T. G., M.B., C.M. Aberd., has been reappointed Medical Officer to the Aberdeen Dispensary.

BOUSTEAD, R. I., L.R.C.P., L.R.C.S., L.M. Edin., D.P.H., has been reappointed Medical Officer of Health to the Haltwhistle Rural District Council.

BROWN, F. J., M.R.C.S., L.S.A., has been appointed Surgeon to the Police of Newark-on-Trent, vice T. G. O'Neill, resigned.

CHILD, EDWIN, M.R.C.S., L.S.A., has been reappointed Medical Officer of Health to the New Maldon Urban District Council.

COLLINGRIDGE, WM., M.D. Cantab., D.P.H., M.R.C.S., has been reappointed Medical Officer to the Port of London Sanitary Authority.

CORTHORN, ALICE M., M.B. Lond., has been appointed Assistant Medical Officer at the North-Western Fever Hospital, Haverstock-hill, N.W.

DENT, ERNEST A., M.B. and C.M. Edin., has been appointed House Surgeon to the Devonshire Hospital, Buxton.

DEVANE, THOMAS F., L.R.C.P. and S. Edin., L.F.P. and S. Glasg., has been appointed Medical Officer to the Hearts of Oak Benefit Society, Penge and Anerley Branch.

EDGAR, J. C., M.R.C.S., L.R.C.P., has been appointed Resident Clinical Assistant to the Barnes Convalescent Hospital, Cheadle, near Manchester, for six months.

ELIAS, JAMES, M.R.C.S., D.P.H. Camb., has been appointed Medical Officer of Health to the Neath Town Council.

ELLIS H. D'ARCY, L.R.C.P. Edin., M.R.C.S., has been reappointed Medical Officer to the Brierley Hill Urban District Council.

GLENNIE, J. A. R., M.B. Aberd., has been appointed Physician to the Aberdeen Dispensary, Vaccine and Lying-in Institution, vice R. G. McKerron, resigned.

HILLIER, SYDNEY, M.D., C.M. Edin., has been appointed Medical Officer for the Stowmarket Sanitary District of the Stow Union.

JONES, T. H. M.B., C.M. Edin., has been appointed Senior House Surgeon to the Infirmary for Children, Liverpool.

LAWRENCE, A. E. A., M.D., C.M. Aberd., has been reappointed Physician Accoucheur to the Bristol General Hospital.

MACLENNAN, D. U., M.D. C.M. Edin., has been appointed Medical Officer of Health for the Widnes Urban Sanitary District.

MCKERRON, R. G., M.B., C.M., D.P.H. Aberd., has been appointed Obstetric Physician and Public Vaccinator, Aberdeen Dispensary.

MURPHY, JAS. E., L.D.S.R.C.S., has been appointed Honorary Dental Surgeon to the Derbyshire Royal Infirmary.

PARHAM, W. M., M.D., C.M. Edin., has been appointed Honorary Physician to the Brecon County and Borough Infirmary, vice Whyte, resigned.

PRICHARD, ROBERT D., L.R.C.P. Edin., L.R.C.S. Edin, L.F.P.S. Glasg., has been appointed Medical Officer and Public Vaccinator for the Second Central District of Neath Union, vice Moses Morgan, M.D., deceased.

ROBERTS, C. G., M.B., B.C. Camb., has been reappointed Medical Officer of Health to the Halstead Urban Sanitary District.

ROBERTSHAW, W. M., M.B., C.M. Edin., has been reappointed Medical Officer of Health to the Stockbridge Urban District Council.

ROBERTSON, W. P., has been reappointed Surgeon Dentist to the Aberdeen Dispensary.

SEATON, DOUGLAS, M.B., Ch.B. Vict., has been appointed Resident Casualty Officer at the Leeds General Infirmary.

SKERRI, H. E. MARKHAM, M.D. Lond., B.S., F.R.C.P., M., M.R.C.S., has been reappointed Senior Physician to the Bristol General Hospital.

WESTMACOTT, FREDERIC H., F.R.C.S. Eng., has been reappointed Resident Medical Officer at the Barnes Convalescent Hospital, Cheadle, near Manchester.

WILLIAMS, H., M.D. Lond., L.R.C.P., M.R.C.S., D.P.H. Camb., has been reappointed Medical Officer to the Port Sanitary Hospital, Denton, Kent.

WRIGHT, JOHN L., L.R.C.P. Edin., M.R.C.S., has been appointed Honorary Surgeon to the Derbyshire Royal Infirmary.

WYETT, ALEXANDER, M.B., C.M. Edin., has been appointed Assistant House Surgeon to the Devonshire Hospital, Buxton.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

ASHTON UNION.—Resident Assistant Medical Officer at the Workhouse, Gravelly-hill, near Birmingham. Salary £100 per annum, with furnished apartments, rations, washing, &c. Applications to the Clerk to the Guardians, Union Offices, Vauxhall-road, Birmingham.

BELGRAVE HOSPITAL FOR CHILDREN.—House Surgeon. Board, lodging, fuel and light provided. Applications to honorary secretary at the hospital, 79, Gloucester-street, S.W.

BETHLEM HOSPITAL.—Two Resident Clinical Assistants. Applications to the Clerk, Bridewell Hospital, New Bridge-street, E.C.

BOLTON INFIRMARY AND DISPENSARY.—Junior House Surgeon for twelve months. Salary £80 per annum, with furnished apartments, board and attendance. Applications to the Hon. Secretary, 12, Acresfield, Bolton.

BRADFORD INFIRMARY AND DISPENSARY.—House Surgeon, unmarried. Salary £110 per annum, with board and residence.

CHARING-CROSS HOSPITAL, London.—Assistant Physician.

GLAMORGAN COUNTY ASYLUM, Bridgend.—Junior Assistant Medical Officer; single. Salary £100 a year, with board (no beer or wine), lodging, washing, and attendance.

HORTON INFIRMARY, Banbury.—House Surgeon and Dispenser. Salary £60 per annum, with board and lodging.

METROPOLITAN HOSPITAL, Kingsland-road, N.E.—House Physician, House Surgeon, and Assistant House Surgeon. The appointments tenable for six months. Salary, House Physician and House Surgeon, each at the rate of £60 a year.

ROYAL COLLEGE OF PHYSICIANS, London.—Milroy Lecturer.

ROYAL UNITED HOSPITAL, Bath.—House Surgeon, for six months. Salary £60 per annum, with board, lodging, and washing.

ST. THOMAS'S HOSPITAL MEDICAL SCHOOL, S.E.—Demonstrator of Physics and Chemistry. Salary £100 per annum.

TAUNTON AND SOMERSET HOSPITAL, Taunton.—House Surgeon for three years. Salary £100 per annum, with board, lodging, and washing in the Hospital. Also Honorary Physician.

THE HOSPITAL FOR SICK CHILDREN, Great Ormond-street, Bloomsbury, W.C.—Medical Registrar and Pathologist, for one year. An honorarium of 50 guineas voted at the end of that term.

THE YORKSHIRE COLLEGE, Leeds.—Demonstrator of Anatomy. Applications to the Registrar.

WESTMINSTER HOSPITAL, Broad Sanctuary, S.W.—Medical Registrar for twelve months. Salary £40 per annum.

Births, Marriages, and Deaths.

BIRTHS.

BOSWELL.—On March 11th, at Ashbourne, Derbyshire, the wife of Alexander Boswell, M.D., of a daughter.

MOSLEY.—On March 8th, at Montpellier-terrace, Swansea, the wife of Reginald L. Mosley, M.B., of a son (James Inglis).

PLANT.—On the 11th inst., at Earlsfield-road, Wandsworth-common, the wife of James R. Plant, M.R.C.S., L.R.C.P., of a son.

STEDMAN.—On Feb. 24th, at Towcester, Northamptonshire, the wife of Herman Stedman, M.D. Miami College, L.R.C.P. and S. Edin., L.F.P. and S. Glasg., of a daughter.

MARRIAGES.

PETERS—SERJEANT.—On March 7th, at Ramsay, Edwin Arthur, B.A., M.B. Cantab., younger son of Edwin Peters, of West Dene, St. Leonard's-on-Sea, to Alice Mary, eldest daughter of F. R. Serjeant, of Westward Ho! Ramsey.

DEATHS.

COGHLAN.—On March 8th, William Boyle Coghlan, M.A., M.R.C.S., of Manchester, formerly Curate of the parish church, Chirbury, Shropshire, aged 66 years.

GROVE.—On March 5th, at Gloucester, John Grove, M.D., formerly of Wandsworth, Surrey, in his 79th year.

PHIPPS.—On Feb. 24th, at his residence, 246, Oxford Road, Manchester, George Constantine Phipps, M.D., F.R.C.S.E., in his 61st year.

TUTTIETT.—On Feb. 28th at Cambridge Villa, Newport, Isle of Wight, Frank Bampfylde Tuttiett, M.R.C.S., aged 79.

N.B.—A fee of 5s. is charged for the Insertion of Notices of Births, Marriages, and Deaths.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY.—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (1 P.M.), St. Mark's (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynecological, by Physicians. 2 P.M.). Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.).

TUESDAY.—London (2 P.M.), St. Bartholomew's (1.30 P.M.), Guy's (1.30 P.M.), St. Thomas's (3.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1.30 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Gt. Northern Central (2.30 P.M.).

WEDNESDAY.—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (2.30 P.M.), Gt. Ormond-street (9.30 A.M.).

THURSDAY.—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (2 P.M.), Soho-square (2 P.M.), North West London (2 P.M.).

FRIDAY.—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.).

SATURDAY.—Royal Free (9 A.M. and 2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), University College (9.15 A.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), Cancer (2 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

TUESDAY.—PATHOLOGICAL SOCIETY OF LONDON.—8.30 P.M. Mr. W. Robertson: The Immunisation of Horses.—Drs. Washbourn, Sims Woodhead, and others will continue the Adjourned Debate upon the Pathology of Diphtheria.—Mr. Lennox Browne will show Specimens of the Pseudo-bacillus of Diphtheria.—Dr. Voelcker: Carcinoma of Ureter.—Mr. J. Jackson Clarke: Sarcoma Mammæ.

WEDNESDAY.—ROYAL METEOROLOGICAL SOCIETY (25, Gt. George-st., Westminster).—7.30 P.M. Mr. W. N. Shaw: The Motion of Clouds considered with reference to their Mode of Formation (illustrated by Experiments).

ROYAL MICROSCOPICAL SOCIETY (20, Hanover-sq., W.).—8 P.M. Mr. W. H. Brown: Patents connected with the Microscope from 1656 to 1800 A.D.

NORTH-WEST LONDON CLINICAL SOCIETY.—8.30 P.M. Clinical Meeting.

THURSDAY.—HARVEIAN SOCIETY.—8.30 P.M. Clinical Evening. Mr. Mayo Collier: Flatfoot; Hallux Rigidus.—Mr. Edmund Owen: A Boy convalescent from Pyæmia after Osteomyelitis.—Mr. Keetley: Exophthalmic Goitre after Enucleation of Thyroid Tumours.—Dr. Sutherland: Pulmonary Fibrosis.—Dr. L. G. Guthrie: Two cases of Scaphocephalus.

SOCIETY OF ANÆSTHETISTS (20, Hanover-sq., W.).—8.30 P.M. Discussion on the Administration of Anæsthetics for Abdominal Operations.

FRIDAY.—CLINICAL SOCIETY OF LONDON.—8.30 P.M. Clinical cases will be shown. Every member will receive a card of agenda before the meeting.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY.—LONDON POST-GRADUATE COURSE.—Royal London Ophthalmic Hospital, Moorfields, 1 P.M., Mr. R. M. Gunn: Cataract.—London Throat Hospital, Gt. Portland-st., W., 8 P.M., Mr. G. Stoker: Impaired Movements of the Vocal Cords.

ROYAL COLLEGE OF SURGEONS.—5 P.M. Prof. Charles Stewart: A Revision of the Endoskeleton in the Physiological Series in the Museum of the College.

SOCIETY OF ARTS.—8 P.M. Dr. D. Morris: Commercial Fibres.

TUESDAY.—LONDON POST-GRADUATE COURSE.—Bethlem Hospital, 2 P.M., Dr. Percy Smith: General Paralysis of the Insane.

ROYAL INSTITUTION.—3 P.M. Prof. Charles Stewart: The Internal Framework of Plants and Animals (X).

ROYAL COLLEGE OF PHYSICIANS, LONDON.—5 P.M. Dr. H. D. Rolleston: Suprarenal Capsules. (First Goulstonian Lecture.)

SOCIETY OF ARTS.—8 P.M. Mr. A. Millar: Practical Carpet Designing.

WEDNESDAY.—NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Bloomsbury).—3 P.M. Lecture by Dr. Beevor.

ROYAL COLLEGE OF SURGEONS.—5 P.M. Prof. Charles Stewart: A Revision of the Endoskeleton in the Physiological Series in the Museum of the College.

WEST LONDON HOSPITAL (Hammersmith, W.).—5 P.M. Dr. Hunter: Medical Cases. (Post-graduate Course.)

LONDON POST-GRADUATE COURSE.—Royal London Ophthalmic Hospital, Moorfields, 8 P.M., Mr. A. Q. Silcock: Glaucoma.—Hospital for Skin Diseases, Blackfriars, 1 P.M., Dr. Payne: Alopecia, its Varieties.

SOCIETY OF ARTS.—8 P.M. Mr. H. F. Lester: The Progress of the Abattoir System in England.

THURSDAY.—ROYAL INSTITUTION.—3 P.M. Mr. S. R. Gardiner: Three Periods of Seventeenth Century History—III. The Restoration.

LONDON POST-GRADUATE COURSE.—Hospital for Sick Children, Gt. Ormond-st., 3.30 P.M., Dr. Penrose: Cases in the Wards.—National Hospital for the Paralysed, Bloomsbury, 2 P.M., Dr. Taylor: Infantile Paralysis.—Central London Sick Asylum, Cleveland-st., W., 5.30 P.M., Dr. Howship Dickinson: Cases in the Wards.

ROYAL COLLEGE OF PHYSICIANS, LONDON.—5 P.M. Dr. H. D. Rolleston: Suprarenal Capsules. (Second Goulstonian Lecture.)

FRIDAY.—LONDON POST-GRADUATE COURSE.—Bacteriological Laboratory, King's College, 3 to 5 P.M., Prof. Crookshank: Erysipelas and Suppuration.

THE CANCER HOSPITAL (FREE) (Fulham-road, Brompton, S.W.).—4 P.M. Mr. W. H. Elam: Cancer of the Stomach.

ROYAL COLLEGE OF SURGEONS.—5 P.M. Prof. Charles Stewart: A Revision of the Endoskeleton in the Physiological Series in the Museum of the College.

ROYAL INSTITUTION.—9 P.M. Sir Wemyss Reid: Emily Brontë.

SATURDAY.—LONDON POST-GRADUATE COURSE.—Bethlem Hospital, 11 A.M., Dr. Hyslop: General Paralysis of the Insane.

ROYAL INSTITUTION.—3 P.M. Lord Rayleigh: Waves and Vibrations (IV.)

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, March 14th, 1895.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Dry Bulb	Wet Bulb	Solar Radia in Vacuo	Maximum Temp Shade.	Min. Temp	Rainfall.	Remarks at 8.30 A.M.
Mar. 8	29·76	N.E.	36	35	75	48	35	...	Overcast
" 9	29·60	S.	41	40	74	47	36	0·06	Overcast
" 10	29·42	S.W.	47	44	85	51	41	0·09	Cloudy
" 11	29·57	S.W.	41	39	92	56	37	...	Cloudy
" 12	29·64	E.	40	38	79	53	36	...	Overcast
" 13	29·95	N.E.	39	38	84	48	38	...	Overcast
" 14	30·31	W.	36	35	79	51	45	...	Foggy

Notes, Short Comments & Answers to Correspondents.

EDITORIAL NOTICE.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side only of the paper.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICE.

TO ADVERTISERS.

THE pressure on our advertisement space this week has necessitated the omission of some few of our clients' announcements.

CLERGYMEN AND CURES FOR INFLUENZA.

WE should have thought that clergymen had their hands full at the present time with the cure of souls. But this does not seem to be true of the Rev. J. E. Woodrow, of the Vicarage, Ormskirk, who advertises "A Sure and Certain Cure for Influenza," consisting of a certain amount of pure phenol in a bottle of water; children to have half the dose. Mr. Woodrow would do well to consult his bishop as to this use of his spare time and knowledge. From the medical point of view we assure him that he incurs a considerable responsibility in advising such remedies or any other for a disease so serious in itself, and lowers his office and his influence by such interference with the functions of another profession.

An Engineer.—The temperatures used in the preparation of margarine are, we believe, at no stage sufficiently high to destroy germs.

"THE JOURNAL OF COMPARATIVE PATHOLOGY AND THERAPEUTICS."

To the Editors of THE LANCET.

SIRS,—Your correspondent, "F.R.S.," would probably be able to see this journal at the library of the Royal Veterinary College, Camden Town. It is a journal devoted to veterinary science, was first issued in 1888, and is edited by Professor McFadyean. The publishers are Messrs. W. and A. K. Johnston of Edinburgh.

I am, Sirs, yours faithfully,

March 9th, 1895. J. W. C.

*** We have received numerous answers for "F.R.S.," and must apologise to the Editor of the *Journal of Comparative Pathology and Therapeutics* for not immediately recollecting the publishers of his valuable quarterly.—ED. L.

THE CASE OF MR. C. BRYAN TOWNSHEND.

THE following additional subscriptions have been received or promised, and are hereby acknowledged with grateful thanks:—

Previously acknowledged	£22	9	0	Mr. J. Terry (Bath) ...	£5	0	0
Mr. H. S. Hughes (Lewes)	2	2	0	Dr. Joseph Kidd (Blackheath)	5	0	0
Mr. N. Davies-Colley ...	2	2	0	Dr. Wm. Vawdrey Lush (Weymouth)	2	2	0
Anonymous (Manchester)	0	10	0	Dr. Hugh Ealand (Puckeridge)	1	1	0
Mr. E. Walter Greene (Bury St. Edmunds) ...	2	2	0	Mr. Ed. B. Holwell (Leeds)	1	1	0
Dr. de Havilland Hall ...	0	10	0	Mr. J. T. Musgrave (London)	1	1	0
Dr. Hamilton (Burton-on-Trent)	1	1	0				
Mr. Chas. Terry (Bath) ...	5	0	0				

Further subscriptions are earnestly requested, and will be received and acknowledged by the Rev. H. Townshend, 41, King Henry's-road, London, N.W.

Mr. T. W. Morris.—The arrangement is not one that we can recommend or assist. If no actual covering is contemplated, our correspondent's scheme at any rate places the qualified assistant in an inferior place to the unqualified principal, and that in itself is wrong.

"A QUESTION OF DOOR-PLATES."

To the Editors of THE LANCET.

SIRS,—Your correspondent "H." seems very sensitive about reputable foreign degrees being registered; but he may be surprised to know that this has been the custom for some considerable time, and I think the General Medical Council may be left to see that the privilege is not abused. It is not necessary to cross the water to obtain a degree which is more precious from a monetary than any other point of view, so that it is as yet very unsafe ground to draw many comparisons. It is a strange weakness of our profession that the old subject of degrees and titles is ever to the front. I should think the Editors of THE LANCET are satiated of it. I can say that a large body of the readers are. Surely we are in an age when a man should be judged by what he can do rather than by what he is and for which he is generally credited? As to brass door-plates, I think usage is in the direction of their being smaller every year, judging by appearances, and a very good thing too. Why not let a man call himself anything he likes; it would not make him what he is not. Personally I would call all medical men "Doctors," letting those who select surgery as a speciality style themselves "Surgeons," and those who possess an M.D. use it, and no honourable man would be ashamed of the affix on suitable occasions, but we like a display of good taste as well as good tone.

I am, Sirs, yours truly,

March 2nd, 1895. REGISTERED FOREIGN GRADUATE.

To the Editors of THE LANCET.

SIRS,—Will you permit me to reply to the letter of "H" in THE LANCET of March 2nd? Any man, medical or otherwise, is quite entitled to display the distinguishing initials of any degree or diploma he may possess, whether granted by a foreign or home corporation; when, however, it refers to medicine, and is not a registrable diploma, or only registrable as an "additional qualification," while it is neither illegal, dishonest, nor dishonourable to make what display he chooses of such diploma, it is at the same time somewhat despicable that a man should do so with the intention of obtaining undue honour or credit among his fellow men. I may point out that a man holding only an unregistrable degree may display what he likes upon his door if he does not practise. It is practising which herein constitutes the crime.

I am, Sirs, yours truly,

London, March 5th, 1895. H. CRITCHLEY, M.A., M.D.

To the Editors of THE LANCET.

SIRS,—Your correspondent, "H.," writing on this matter, is needlessly distressed. "Would it surprise him" to learn that in the official Medical Register there are the names of many honourable men of unquestionable standing and position who hold the M.D. degree of foreign universities duly and legally registered? Also, that these gentlemen are fully recognised and addressed as "Doctor" by the Registrar in all official communications from him, as well as by their fellow practitioners, who are probably as zealous for the honour of the profession as your correspondent, though perhaps less captious and censorious. I am, Sirs, yours faithfully,

March 12th, 1895. M.R.C.P. & M.D. (DULY REGISTERED).

MEDICAL ADVERTISING IN WEST HAM.

THE following card is being distributed in West Ham:—

"S. L. Popham, M.D., Surgeon, 55, Fairland-road. At Home—10 to 12 A.M.; 6 to 7 P.M."

We need not say that this distribution is not in accordance with the traditions of the profession.

Mr. R. S. Trotter.—The idea of treating cases of Addison's disease by the administration of an extract of the suprarenal body has been suggested from more than one quarter since the successful employment of thyroid extract in myxœdema. We are not certain that any records of cases so treated have been published as yet; but we have reason to believe that particulars of researches in this direction will shortly be made known in this country.

PROFESSIONAL SANCTIONS OF QUACKERY.

THE advertising columns of the *Sun* (March 8th, 1895) contain laudatory notices of "Norton's Curanillo," purporting to be signed respectively by J. Alfred Wanklyn, M.R.C.S. Lond., Professor of Chemistry, &c.; Charles W. De Lacy Evans, M.R.C.S., Ph.D., Solly Medallist of St. Thomas's Hospital, &c.; J. Brodie, L.R.C.P., L.R.C.S., &c. It is not easy to understand how medical men justify themselves in giving such notices to quack medicines. The evil is a great one, and calls for some notice at the hands of the medical corporations.

"SULPHUR *v.* ANTITOXIN IN THE TREATMENT OF DIPHTHERIA."

To the Editors of THE LANCET.

SIRS,—Mr. Lennox Browne has certainly formed a very different impression from what I intended to convey in the sentence he quotes from my letter. If two or more remedies have been proved to be useful in a certain case there can, of course, be no objection to a combination. When, however, we have a deadly enemy to fight, and it is uncertain how to prevent the raids of that enemy, I am of opinion that we are justified in simply using one form of attack only until we discover which form or combination of forms will annihilate the foe, and it is only by this means that posterity will benefit by the researches of the present day. If two or more remedies are used and the observer gives all the credit to one of these without due trial exactly what Mr. Lennox Browne fears will happen. Many lives will be sacrificed and no advance will have been made. I did not cast any imputation on the efficacy of antitoxin because Dr. Hamilton used sulphur simultaneously with it; but I certainly took exception to him giving the whole credit to antitoxin, and came to the conclusion that if he published his successful cases in which he used antitoxin he would have headed his article as "So many Cases treated successfully by Antitoxin." Mr. Lennox Browne will probably say I am not justified in coming to this conclusion, because he says in his letter that antitoxin was used as an auxiliary only in the results published in THE LANCET of Feb. 2nd, p. 305. I have read through the accounts published in that number, and I can find no allusion to other remedies being used in combination. On the contrary, the only mention of other methods of treatment is made by Dr. Caiger of the South-Western Fever Hospital, who says: "Results which my experience justifies me in asserting could not have been expected with previous methods of treatment." I should be glad to hear if Dr. Caiger and the other gentlemen whose names are connected with the various accounts have given either sulphite of magnesium or sulphur a fair trial. The results published by those using these two remedies compare more than favourably with the results obtained so far with antitoxin. Medical and lay papers have filled their columns with accounts of the "new cure for diphtheria." Sulphur I claim to be a surer cure. If it is of only equal value it is a far better remedy to use, for it is always at hand and is free from many objections that may be raised against antitoxin. One shudders to think of the terrible havoc that would be wrought if the tube contained not antitoxin, but the inert rubbish—if nothing worse—often contained in tubes sent supposed to be filled with vaccine lymph. I should like to know how we are to contrast the usefulness of different remedies other than by mathematical calculations. If Mr. Lennox Browne does not believe in mathematical calculations, why does he tell us that a mortality of 5 per cent. is an object lesson? 0 per cent. is a more striking object lesson. This has been the success of sulphur in some hands since using it in the treatment of diphtheria. I know many will say the diagnosis has been wrong, but why should a man's power of diagnosis be faulty after using a certain drug when it was not questioned before using it? Then one cannot forget cases where the diagnosis had been made by another man, and the man called in confirmed the diagnosis and recommended sulphur, bringing about results highly satisfactory to all concerned. I should, indeed, be sorry to see any human being treated other than with a sense of grave responsibility. If, however, permanent benefit is to be the result of any treatment it must be as far as possible scientific and not empirical.

I am, Sirs, yours faithfully,

Aberdovey, March 4th, 1895. W. HAWKINS CUTHBERT.

"BOOKS ABOUT MEDICINE."

To the Editors of THE LANCET.

SIRS,—In answer to your correspondent "Enquirer," Dr. Doran appears to have gained his facts from B. F. Boerner's pamphlet "De Cosma and Damiana," published at Helmstadt in 1751. It is a matter of common knowledge that the brethren preceded St. Luke in the estimation of our ancestors. They were the patrons of the barber-surgeons throughout Europe, as well as of the Medici family. In England they were made to act as supporters to the shield granted to the Fellowship of Surgeons in London in 1492, as may be seen in Mr. Sidney Young's valuable work on the Annals of the Barber-Surgeons. They are not present in the original grant of arms, but have been introduced at a later period without heraldic authority. A detailed account of the saints will be found in Mrs. Jameson's "Sacred and Legendary Art," vol. ii., pp. 433-439, ed. 1890.

I am, Sirs, yours faithfully,

March 8th, 1895. D'ARCY POWER.

*** The worship of these saints was well established in Italy from a very early date, and the rites, prominently those of Phallicism, will not bear much detailed description.—ED. L.

"DR. GOFF, 179, WESTMINSTER BRIDGE-ROAD, LONDON, S.E."

SUCH is the address at the foot of one of the worst specimens of a medical handbill which we have seen. Its chief object is to laud the virtues of "Dr. Goff's reliable Female Pills for all ages," and "Reliable Female Mixture for obstinate cases of Irregularities." They are recommended for all females, married and unmarried, to be taken before menstruation. The handbill admits of very bad construction, and in any view is discreditable to a registered medical man. But is Mr. Goff such? In the Medical Register for 1892 we find that a Mr. George Romaine Goff, L.F.P.S. Glasg., L.S.A. Lond., resided at 179, Westminster Bridge-road, Lambeth; but we can find no mention of this gentleman again either in the official roll or in the Medical Directory. If this is the "Dr." Goff of the evil handbills the bodies from whom he has received his diplomas should proceed immediately to point out to him the reprehensibility of his methods. But if "Dr." Goff is not Mr. George Romaine Goff he would not appear to hold any medical degrees, or to be more amenable to the discipline of corporations and of the General Medical Council than other quacks.

W. G. G.—Income Tax Commissioners who are quite independent of the Revenue Department are appointed for the purpose of protecting the taxpayer, and our correspondent should, we think, apply to them. A *brochure* entitled "Income Tax and How to Get it Refunded" is published by Messrs. Effingham Wilson and Co. of the Royal Exchange and sold for a shilling, and a society which interests itself in these matters, named the Rate and Taxpayers' Assessment Protection Association, Ltd., has offices at 10, Serjeant's-inn, Fleet-street.

"THE INFLUENZA EPIDEMIC."

To the Editors of THE LANCET.

SIRS,—Mr. Terry asks if anyone has seen marked throat affection in cases of influenza. In every case I have seen there has been a decided sore-throat. The pharynx has assumed a strong redness, very similar to what is present in scarlet fever, but without any sign of ulceration. There is no pain in swallowing, but the patient complains of the throat being parched and hot. In one case there was acute earache on one side, the corresponding tonsil being large, puffy, and encroaching on the isthmus. The thirst in every case has been most urgent and intense. Bronchitis of a more or less acute character has shown itself on the third or fourth day. The attack has been ushered in by distinct shivering, weariness, and severe headache, but no coryza. I have no doubt the essential infectiveness of this disease is mainly due to the condition of the peculiar local faucial lesion, which is unlike in appearance that of any other disease I know. I have found swabbing the inflamed area with borate of glycerine several times a day of great benefit. It cools and to some extent allays thirst and the dry and hot scalding sensation so much complained of. We hear a great deal of "chills being taken." This is an error in the majority of cases. The shivering is one of the first symptoms indicative of the assault or invasion of the disease, and has no connexion with a supposed "chill."

I am, Sirs, yours faithfully,

Southport, March 11th, 1895. G. B. BARRON, M.D., &c.

THE AMENITIES OF THE PROFESSION.

T. R.—The rule still holds that the widow of a medical man is entitled to much consideration and, if need be, to gratuitous medical attendance from the profession. The rule is not an absolute one. It is subject to considerations of reason and circumstance, and should not be pressed too rigidly on either side; but, subject to these qualifications, it is one to be respected.

ERRATUM.—On p. 583 of our issue of March 2nd, under the heading "Royal College of Surgeons in Ireland," a comma should be inserted between the surname "Penrose" and the place-name "Burton."

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

During the week marked copies of the following newspapers have been received:—*Scotsman, Southport Guardian, Bridge of Allan Reporter, Dundee Advertiser, Horncastle News, Carlisle Express, Cincinnati Tribune, Flintshire Observer, North Star, Swansea Journal, Walsall Advertiser, Sussex Daily News, Spalding Free Press, Dover Telegraph, Leicester Post, Birmingham Gazette, Newcastle Leader, Warwick Times, Leek Times, New York Tribune, Stafford Advertiser, Manchester Courier, Sheffield Telegraph, Glasgow Evening News, Cornish Telegraph, Leeds Mercury, West Middlesex Standard, Hertfordshire Mercury, Public Health Local Government Chronicle, Mining Journal, City Press, Pioneer Mail, Bristol Mercury, Architect, Liverpool Daily Post, Vegetarian, Builder, Times of India, Yorkshire Post, Weekly Free Press and Aberdeen Herald, Reading Mercury, Sanitary Record, Orkney Herald, Dumfries Standard, Surrey Advertiser, Guy's Hospital Gazette, East Grinstead Observer, West Middlesex Advertiser, Durham County Advertiser, Cheltenham Examiner, Oswestry Advertiser, Waterford Chronicle, Leighton Buzzard Observer, Durham County Advertiser, Umpire, Mayo Examiner, Army and Navy Gazette, Macclesfield Courier, Westmeath Examiner, Liverpool Express, East London Observer, Craven Herald, Roscommon Messenger, Hampshire Chronicle, Zoophilist, Indicator Cork Daily Herald, Wrexham Advertiser, Fulham News, &c., &c.*

Communications, Letters &c. have been received from—

A.—Mr. H. L. Albert, Lond.; Messrs. R. Anderson and Co., Lond.; Messrs. Armour and Co., Lond.; Aston Union, Clerk of; Apollinaris Co., Lond.; Audax, Leeds; Alpha, Lond.

B.—Dr. D. C. Black, Glasgow; Dr. A. G. Bateman, Lond.; Dr. P. H. Boyden, Pembroke Dock; Dr. D. Bower, Bedford; Dr. P. J. Baily, Lond.; Mr. C. Birchall, Liverpool; Mr. F. A. Brockhaus, Lond.; Mr. R. Bartlett, Saffron Walden; Mr. F. T. Bennett, Lond.; Dr. J. L. Bunch, Lond.; Mr. R. L. Bayliss, Chard; Mons. O. Berthier, Paris; Miss A. M. Burfield, Dover; Messrs. W. H. Bailey and Son, Lond.; Messrs. Baldwin Brgs. and Co., New York; Messrs. Blondeau et Cie., Lond.; Bryant Press, Toronto; Bradford Infy., Sec. of; Bolton Infy., Sec. of.

C.—Prof. M. Charteris, Glasgow; Dr. L. Casper, Leipzig; Mr. R. Courteen, Redbrook; Mr. W. F. Clay, Edinburgh; Mr. W. H. Cousins, Lond.; Messrs. Coleman and Co., Norwich; Church Lads' Brigade, Lond. Sec. of; Chevron.

D.—Mr. C. J. Dear, Lond.; Mr. M. Delafon, Paris; Messrs. Davies, Turner, and Co., Lond.; Domen Belts Co., Lond.; Durham Post Office, Postmaster of; Dr. G., Selborne; D. U., Cork.

E.—Dr. D. G. Evans, Cefnybedd; Mr. E. G. W. Everth, Lond.; Messrs. Eason and Son, Dublin; Engineer.

F.—Dr. R. W. Felkin, Edinburgh; Dr. F. D. Fisher, Aspatria; Messrs. Fannin and Co., Dublin; Fine Art Soc., Lond.; Fischer's Buchhandlung, Berlin; First Swiss Alpine Milk Exporting Co., Lond.; F. R., Cairo.

G.—Prof. J. Griffiths, Cambridge; Maj.-Gen. Graham, Lond.; Mr. S. Grose, Melksham; Mr. F. K. Green, Bath; Mr. H. P. Gaston, Portsea; Mr. G. H. Gabb, Lond.; Mr. H. R. Greene, Woking; Messrs. F. J. Gray and Son, Walsall; Messrs. Goddard Bros., Peterborough; Glasgow District Lunacy Board, Clerk of; Glamorgan County Asyl., Bridgend, Clerk of.

H.—Sir G. Humphry, Cambridge; Dr. G. Herschell, Lond.; Dr. J. Henderson, Gloucester; Dr. T. W. Hime, Bradford; Dr. G. Heaton, Birmingham; Herr G. Hermanni, jun., Lond.; Mr. C. Higgens, Lond.; Mr. N. W. Holmes, Lond.; Mr. J. Heywood, Manchester; Mr. J. R. Haynes, Lond.; Mr. F. R. Humphreys, Lond.; Mr. E. M. Hime, Bradford; Mr. T. G. Horder, Cardiff; Messrs. T. Hopkinson & Co., Nottingham.

J.—Mr. F. B. Jessett, Lond.

K.—Dr. T. H. Kellock, Lond.; K. N., Lond.

L.—Mr. C. B. Lockwood, Lond.; Mr. M. B. Lee, Liverpool; Mr. C. J. Lucas, Dublin; Mr. C. Legg, Lond.; Messrs. Longmans, Green, and Co., Lond.; Messrs. Loescher and Co., Rome; Leeds and W. Riding Med.-Chir. Soc., Sec. of; Lawes' Chemical Manure Co., Lond.

M.—Mr. G. S. Mandell, Boston, U.S.A.; Mr. M. M. McHardy, Lond.; Mr. V. Mohanlraja, Dhar, Central India; Mr. J. H. Maclean, Ashbourne; Mr. J. W. Morris, Lond.; Messrs. Miller and Richard, Lond.; Medico-Psych. Assoc., Lond., Hon. Sec. of; Mutual Life Insurance Co., New York, Gen. Manager of; Mullingar Asyl., Supt. of; Maltine Mfg. Co., Lond.; Mem, Lond.

N.—Dr. A. Newsholme, Brighton; Dr. E. Neumann, Vienna.

O.—Dr. T. Oliver, Newcastle-on-Tyne; Mr. T. H. Openshaw, Lond.; Messrs. Oppenheimer, Son, and Co., Lond.; Ormskirk.

P.—Mr. O. Pemberton, Birmingham; Mr. G. N. Peel, Lond.; Mr. E. Proctor, Lond.; Path. Soc. of Lond., Hon. Sec. of; Plymouth Med. Soc., Hon. Sec. of.

Q.—Dr. R. Quinton, Lond.; Queen's-road, 233, Halifax.

R.—Mr. C. H. Robinson, Kingstown; Mr. H. Rose, Lond.; Mr. A. Roche, Dublin; Mr. C. F. Rudd, Stalham; Messrs. Richardson Bros. and Co., Liverpool; Messrs. J. Raphael and Co., Lond.; Roy. Coll. of Phys., Lond., Sec. of.

S.—Dr. H. Sainsbury, Lond.; Dr. Savage, Lond.; Dr. H. Snow, Lond.; Dr. J. B. Spence, Burntwood; Dr. A. M. Sutton, Nicola Lake, British Columbia; Dr. J. Selkirk, Litcham; Maj.-Gen. W. J. Stewart, Lond.; Mr. P. Swain, Plymouth; Mr. C. G. Symons, Wolverhampton; Mr. J. B. Stelfox, Middleton; Messrs. Stock, Page, and Stock, Lond.; Messrs. Sampson Low, Marston, and Co., Lond.; Messrs. Scott, Craig, and Brown, Glasgow; Messrs. W. H. Smith and Son, Manchester; Messrs. Souter, Mackenzie, and Co., Dover; Messrs. P. M. Shanks and Co., Lond.; Messrs. S. Smith and Co., Lond.; Dr. S., Lond.

T.—Dr. F. Thomson, Lond.; Mr. J. R. Tumner, Lond.; Mr. P. O. Tempest, Manchester; Taunton Hosp., Sec. of.

U.—Univ. Coll. Hosp., Lond., Sec. of.

V.—Dr. E. W. Von Tunzelman, Chefoo; Vaccine Lymph Assoc., Lond., Sec. of; Vendor, Lond.

W.—Dr. A. Wilkinson, Shaftesbury; Mr. H. Woodward, Lond.; Mr. F. Weller, Lond.; Herr G. Welgand, Homburg; Miss Whittaker, Norwich; Messrs. W. Wood and Co., New York; W. G. G.

Y.—Yorkshire Coll. Leeds, Sec. of.

Z.—Messrs. A. & M. Zimmermann, Lond.

Letters, each with enclosure, are also acknowledged from—

A.—Dr. J. P. Atkinson, Yealand Conyers; Dr. J. Adam, West Malling; Dr. E. Allen, Hawes; Dr. S. Andrew, Lurgan; Mr. W. H. Anderson, Dublin; Aberystwith Infy., Sec. of; A. A. M., Lond.; Aleck, Lond.

B.—Sir. W. Broadbent, Lond.; Dr. J. W. Beatty, Enniskillen; Mr. M. R. Brandreth, Brighton; Mr. J. Boydell, Brighton; Mr. J. C. Bartlett, Teignmouth; Mons. O. Berthier, Paris; Col. S. Breck, Governor's Island, New York City; Mr. S. S. Buck, Eaton Socon; Mr. H. Brice, jun., Exeter; Mrs. S. A. Bennett, Lond.

C.—Dr. J. Cunningham, Lond.; Dr. Christoff, Varna, Bulgaria; His Excellency Crookshank Pasha, Cairo; Mr. J. Clarke, Billis, co. Cavan; Mr. H. H. Crickett, Worcester; Mr. J. Court, Staveley, Chesterfield; Messrs. Collins and Collins, Wanstead; Messrs. J. A. Carveth and Co., Toronto; Camberwell House, Peckham-road, Med. Supt. of; Cloister, Lond.; Crux, Lond.

D.—Dr. S. P. Delans, New Orleans, La., U.S.A.; Mr. J. W. Davies, Ebbw Vale; D. U., Cork; Domus, Lond.

F.—Dr. A. H. Frere, Menston; F.R.C.S., London; Florac, Lond.; Ferrum, Lond.

G.—Mr. P. Grant, Watford; Messrs. Gilyard Bros., Bradford; Glasgow City District Lunacy Board, Clerk of; G. L., Lond.

H.—Dr. Hunt, Harrow; Mr. H. J. Heginbotham, Wymeswold; Mr. H. Hutchinson, Burton-on-Trent; Mr. T. M. Hocken, Dunedin, N.Z.; Mr. J. Harper, Barnstaple, Messrs. C. J. Hewlett and Son, Lond.; Messrs. Hampton and Sons, Lond.; H. W., Lond.

I.—Mr. A. T. Ilott, Truro; Messrs. Idris and Co., Lond.; Irel., Lond.

J.—Dr. T. H. Jackson, Sanquhar, N.B.; Dr. J. H. Jackson, Harwich; Mr. J. B. James, Aberaman; J. D. A., Bath; Justitia, Lond.; J. H., Lond.

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